DOCUMENT RESUME

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ABSTRACT

This instructional package, one of four designed for use by regular and low reader students, focuses on the vocational area of graphics. (Low readers are identified as those reading at a grade 3-6 level.) Contained in this document are seventy-four learning modules organized into four units: presswork; finishing and bindery; special processes (e.g., sign painting and mimeographing); and photography (continuous tone). Each module includes these elements: a performance objective page telling the student what will be learned, what materials are needed, and how she/he will be evaluated; a section providing information needed to perform the activity; and a job-steps page detailing the steps necessary to do the task. Many visuals are included to accommodate the low reader. Technical words are defined as they appear in the text. (This document and related documents CE 017 555, CE 017 556, and CE 017 557 are one of three sets of learning modules on graphics. The other two sets are written in formats designed for educable mentally impaired and visually impaired students. The modules are part of a total set of over 1,300 modules written for different student populations. Building maintenance, dietetic assistant, small engine repair, and medical assistant are the other vocational fields covered. CE 017 554 is the final report of the project to develop the modules.) (JH)

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CAPITAL AREA CAREER CENTER
Ingham Intermediate School District
611 Hagadorn Road
Mason, Michigan 48854

TO: [Vol. 4]

MULTIPLE LEARNING STRATEGIES PROJECT

GRAPHICS
Regular Vocational-Low Reader

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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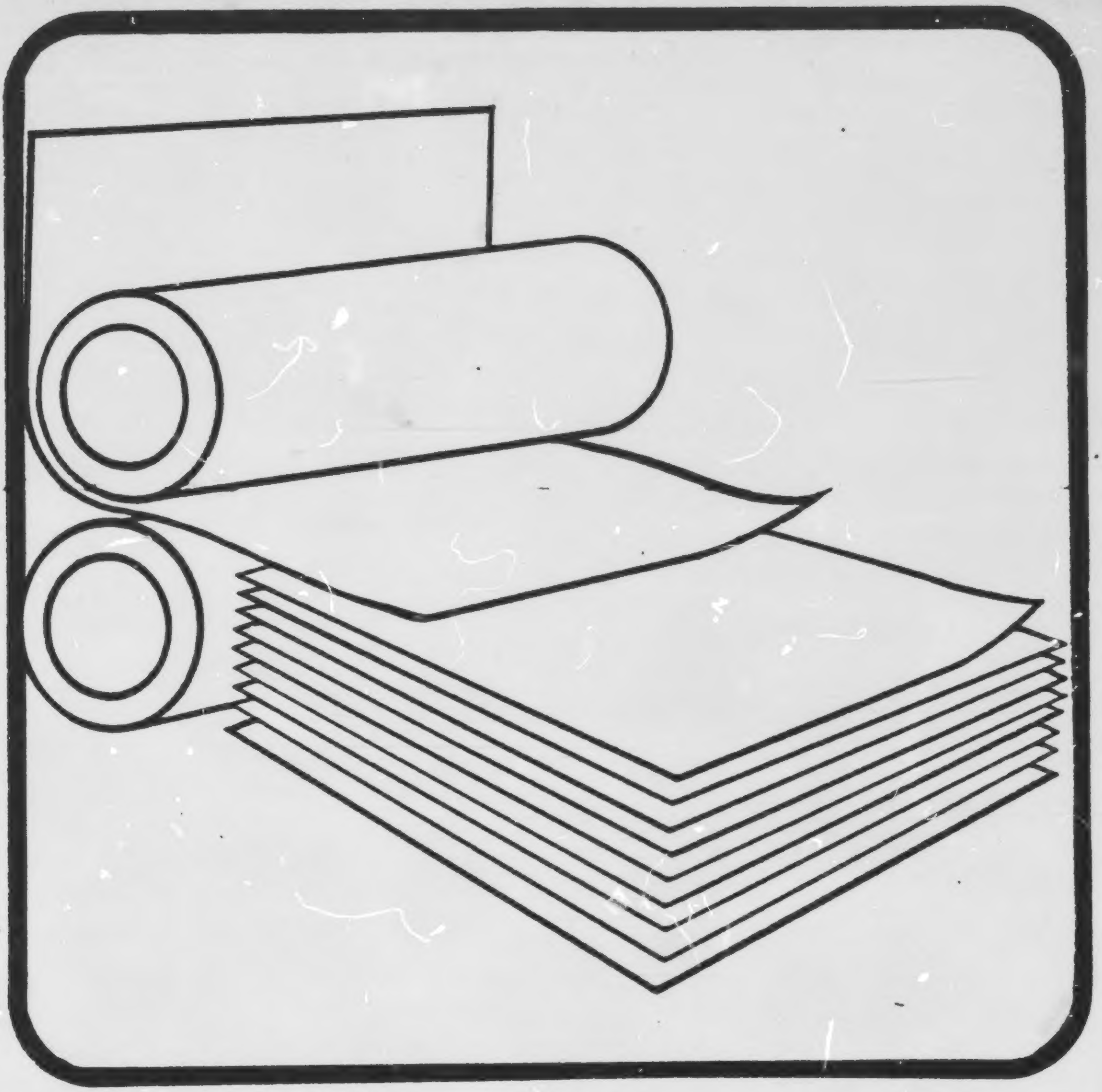
CE 017 558



graphics

unit: PRESSWORK

capital area career center

1401 13 101
module: 1401 13 101 3 date: JANUARY 1978 level: I

skill title: INTRODUCTION TO THE PRINTING PROCESSES

developed & written by: GLEN PETTIT

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

THE SIX BASIC PRINTING PROCESSES, HOW TO RECOGNIZE THEM AND THEIR ROLE IN THE INDUSTRY.

IN ORDER TO DO THIS YOU WILL NEED:

DESCRIPTION AND EXAMPLES OF EACH PROCESS

EQUIPMENT FOR EACH PROCESS

SELF QUIZ

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN RECOGNIZE HOW MOST ANY GIVEN PIECE WAS PRINTED AND WHY IT WAS DONE BY THAT PROCESS.
2. YOU UNDERSTAND AND CAN RELATE HOW EACH PROCESS PRINTS AND ITS ADVANTAGES.

A TAPE OF THIS MODULE IS AVAILABLE.

JOB STEPS

1. VIEW THE FILMSTRIP/TAPE "INTRODUCTION TO THE PRINTING PROCESSES" BY MCKNIGHT-MCKNIGHT.

2. ALSO VIEW THE FILMSTRIP (NO TAPE) "THE STORY OF PRINTING".

3. GO INTO THE GRAPHICS LAB FOR LETTERPRESS PRINTING, FIND AND LOOK AT:

   A. A TYPE CASE WITH TYPE
   B. A CUT OR LETTERPRESS PLATE
   C. THE HEIDELBERG PLATEN PRESS
   D. THE STONE AND FURNITURE

4. GO TO AN OFFSET PRESS AND FIND:

   A. THE PLATE, BLANKET AND IMPRESSION CYLINDER
   B. THE WATER ROLLERS
   C. THE INK SYSTEM
   D. THE FEED AND DELIVERY SYSTEM
   E. AN OFFSET PLATE
   F. A MASKING SHEET WITH NEGATIVES

5. ASK FOR A SCREEN FRAME WITH STENCIL:

   A. LOOK AT THE SCREEN
   B. FEEL THE STENCIL
   C. USE A MAGNIFYING GLASS TO SEE THE OPENINGS

6. IN THE DARKROOM:

   A. LOOK AT AN ENLARGER
   B. PUT IN A NEGATIVE AND TURN ON THE LIGHT

7. HAVE SOMEONE SHOW YOU THE ELECTROSTATIC COPIER (PLATEMAKER).

8. FIND PIECES OF PRINTING AROUND THE LAB THAT WERE PRINTED BY EACH OF THE SIX PRINTING PROCESSES:

   A. LETTERPRESS (CARDS, SHORT RUN TICKETS)
   B. OFFSET (MAST WORK, BOOKS, ETC.)
   C. SCREEN (POPBOTTLES)
   D. PHOTOGRAPHY (PICTURES)
   E. ELECTROSTATIC (COPIES)
   F. GRAVURE (STATE JOURNAL "AMERICAN WEEKLY" MAGAZINE

9. TAKE THE ATTACHED SELF QUIZ, WRITE YOUR ANSWERS ON A SEPARATE SHEET OF PAPER ANC CHECK YOUR ANSWERS WITH THE CORRECT ONES ON PAGE SIX OF THIS MODULE.

SELF QUIZ

1. WHICH PROCESS IS BASED ON THE PRINCIPAL THAT OIL AND WATER DO NOT MIX?
2. WHO DEVELOPED THE ART OF PAPERMAKING?
3. WHO FIRST DEVELOPED THE PROCESS OF WOODBLOCK PRINTING?
4. WHAT DID JOHANN GUTENBERG OF MAINZ, GERMANY INVENT?
5. WHO WAS THE FIRST PRINTER IN THE UNITED STATES?
6. WHAT DOES A LINOTYPE DO?
7. HOW FAST CAN SOME MODERN OFFSET PRESSES PRINT?
8. WHICH PROCESS USES FLAT METAL PLATES?
9. WHICH PROCESS USES + AND - ELECTRONS?
10. IN WHICH PROCESS DOES THE INK GO THROUGH THE 'PLATE'?
11. IN WHICH PROCESS DO YOU DEVELOP THE PRINT?
12. WHICH PROCESS IS VERY EXPENSIVE AND ONLY FOR VERY LONG RUNS?
13. WHICH PROCESS DID BENJAMIN FRANKLIN USE?
14. IN OUR AREA, HOW IS MOST PRINTING DONE?
15. HOW ARE POP BOTTLES AND CLOTH PRINTED?
16. HOW ARE MONEY AND POSTAL STAMPS PRINTED?

ANSWERS TO SELF QUIZ

1. OFFSET
2. CHINESE
3. CHINESE
4. MOVEABLE TYPE LETTERS
5. STEPHEN DAY
6. SETS SOLID LINES OF TYPE
7. 400,000 COPIES PER HOUR
8. OFFSET
9. ELECTROSTATIC
10. SCREEN
11. PHOTOGRAPHY
12. GRAVURE
13. LETTERPRESS
14. OFFSET
15. SCREEN
16. GRAVURE

graphics

unit: PRESSWORK

capital area career center

1401 13 102

module: 1401 13 102 3 date: DECEMBER 1977 level:

skill title: PLATEN PRESS LOCK-UP

developed & written by: GLEN PETTIT

visuals by: GLEN COOLEY

WORD GUIDE

SOUND - SNUG SO NO TYPE CAN FALL OUT

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO LOCK-UP A TYPE FORM IN A CHASE FOR PLATEN PRESS PRINTING.

IN ORDER TO DO THIS YOU WILL NEED:

A METAL CHASE, QUOINS AND KEY

A TYPE FORM

FURNITURE

WE WILL KNOW YOU CAN DO IT WHEN:

YOUR TYPE FORM IS CENTERED, STRAIGHT AND SOUND SO NO TYPE, SPACING OR FURNITURE IS LOOSE WITHIN THE CHASE.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

IN MODULE 1401 13 010 (USING LETTERPRESS TOOLS, EQUIPMENT, AND METHODS) YOU LEARNED ABOUT THE BASIC LETTERPRESS TOOLS AND EQUIPMENT. IN THIS MODULE YOU WILL LEARN HOW TO LOCK-UP THE TYPE IN THE CHASE. YOU WILL BE USING A SMALL HAND-LEVER PLATEN PRESS WHICH CAN PRINT WITH THE SAME HIGH QUALITY AS ANY LARGER PRESS.

USE THE SAME METAL TYPE FORM THAT YOU SET FOR MODULE 1401 08 009 (HAND-SET TYPE: A SIMPLE NAME CARD) TO PRINT THESE LETTERPRESS MODULES.

THE TYPE FORM MUST BE LOCKED UP IN THE METAL CHASE IN THE RIGHT PLACE ON THE PRESS SO NO TYPE WILL MOVE OR FALL OUT WHILE YOU ARE PRINTING.

WORD GUIDE

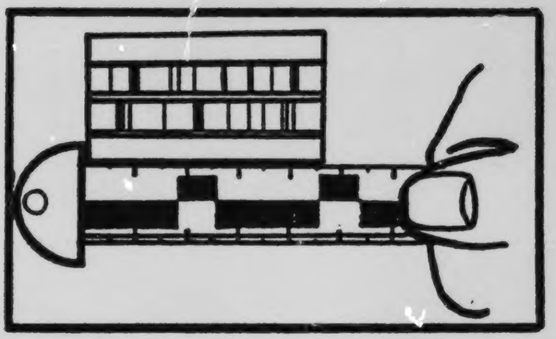
PI - SPILL OVER, MESS UP

JOB STEPS

1. TAKE ALL EQUIPMENT TO YOUR WORK AREA.

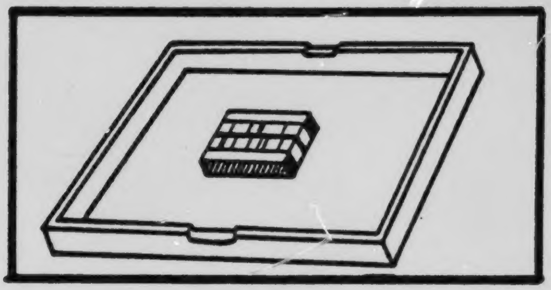
2. GET THE TYPE FORM THAT YOU SET FOR MODULE 1401 08 009 (HAND-SET TYPE: A SIMPLE NAME CARD) AND PLACE IT ON THE STONE SO IT IS READING UP-SIDE-DOWN (BOTTOM OF THE LETTERS AWAY FROM YOU).

3. LEAVE THE STRING OR RUBBER BAND AROUND THE TYPE FORM FOR NOW, SO NO TYPE WILL FALL OUT OR PI. MEASURE THE WIDTH OF YOUR TYPE FORM WITH A LINE GAUGE. IT SHOULD BE 20 PIECES WIDE.

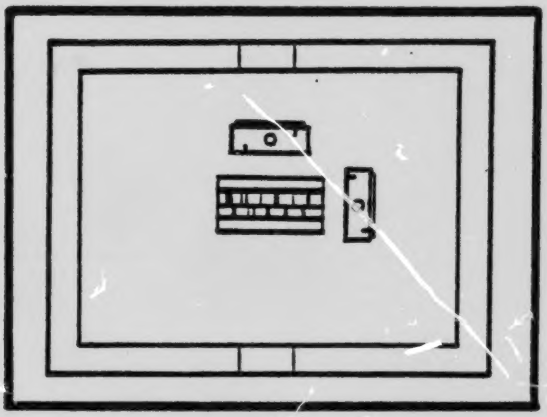


4. GET THE CHASE FOR THE PRESS YOU WILL BE USING AND PLACE IT OVER THE TYPE FORM.

5. CENTER THE CHASE WIDTH-WISE AND HAVE THE BOTTOM OF THE TYPE FORM CLOSER TO THE TOP OF THE CHASE (PAINTED ORANGE).



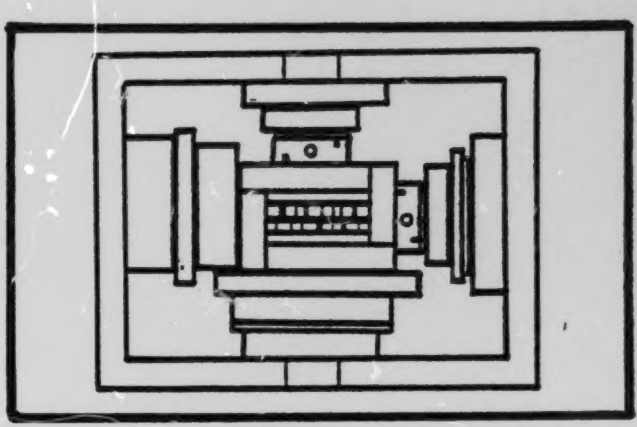
6. DO NOT UNTIE YOUR TYPE FORM YET. GET TWO QUOINS AND A QUOIN KEY AND PLACE ONE KEY ON THE TOP AND ONE ON THE RIGHT SIDE OF THE TYPE FORM, NEAR THE CHASE.



7. FROM THE FURNITURE STORAGE RACK UNDER THE STONE GET SEVERAL PIECES OF 20 PICA WIDE WOOD FURNITURE AND PLACE THESE IN THE TOP-BOTTOM DIRECTION OF THE CHASE

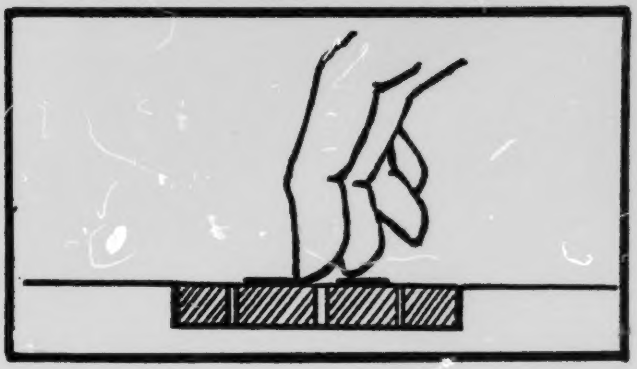
JOB STEPS

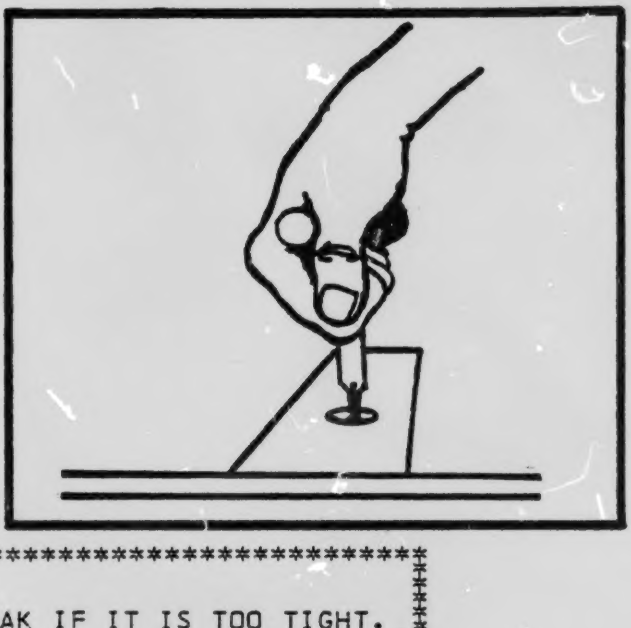
8. NOW GET SEVERAL PIECES OF 25 PICA WIDE WOOD FURNITURE AND FILL IN THE SIDE-SIDE DIRECTION OF THE CHASE, AS SHOWN.



9. USE A THIN PIECE OF WOOD FURNITURE BETWEEN THE CHASE AND METAL QUOIN AND TAKE OUT THE STRING FROM THE TYPE FORM NOW.

10. ODD THIN WOOD FURNITURE TO MAKE THE TYPE FORM TIGHT IN THE CHASE. WITH YOUR FINGERS, GENTLY TAP DOWN ANY LETTERS IN THE FORM THAT MAY HAVE SLID UP.





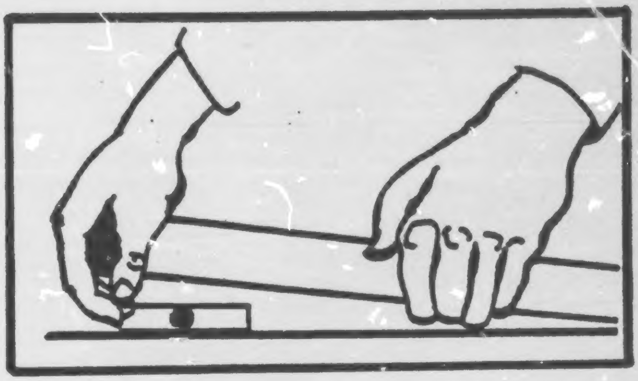
11. BE SURE THERE IS NO METAL TOUCHING METAL IN YOUR LOCK-UP. WITH THE QUOIN KEY, GENTLY TIGHTEN THE TWO QUOINS:

A. TIGHTEN ONE A LITTLE, THEN THE OTHER. . . GOING BACK AND FORTH SEVERAL TIMES.

B. USE ONLY YOUR FINGERS TO HOLD THE KEY, NOT YOUR WHOLE HAND.

CAUTION: THE CHASE WILL BREAK IF IT IS TOO TIGHT.

JOB STEPS



12. SOUND THE TYPE FORM BY PUTTING A QUOIN UNDER THE EDGE OF THE CHASE AND TAPPING THE TYPE WITH YOUR FINGERS TO SEE IF ANY MOVES. THE TYPE MUST BE SOUND BEFORE YOU PUT IT IN THE PRESS.

13. PUT AWAY ANY EXTRA FURNITURE NOW (MAKE UP THE FURNITURE ROCK STRAIGHT IF NEEDED) AND RETURN THE KEY AND CLEAN THE STONE.

14. STORE YOUR CHASE IN AN EMPTY GALLEY UNDER THE STONE. PUT YOUR NAME ON A PIECE OF MASKING TAPE AND NOTE THE FRONT OF THE GALLEY. NOW YOU ARE READY TO PREPARE THE PRESS.

graphics

unit: PRESSWORK

capital area career center

module: 1401 13 103
1401 13 103 3 date: DECEMBER 1977 level:

skill title: PLATEN PRESS PREPARATION

developed & written by: GLEN PETTIT

visuals by: BRUCE BENNETT

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

TO PACK THE PLATEN, INK THE PRESS AND LEARN THE MAJOR PARTS OF A PLATEN PRESS.

AND IN ORDER TO DO THIS YOU WILL NEED:

A PLATEN PRESS

A MICROMETER

PACKING PAPERS

INK AND AN INK KNIFE

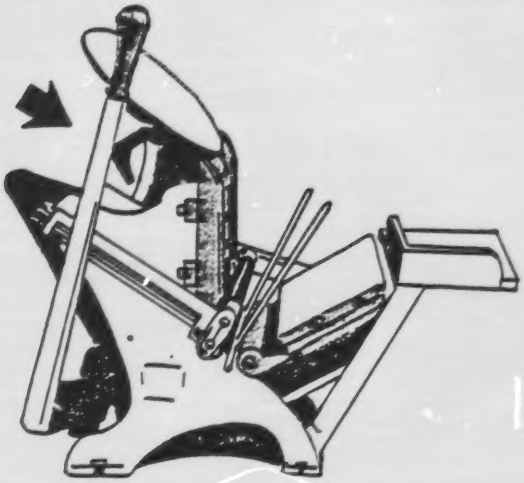
WE WILL KNOW YOU CAN DO IT WHEN:

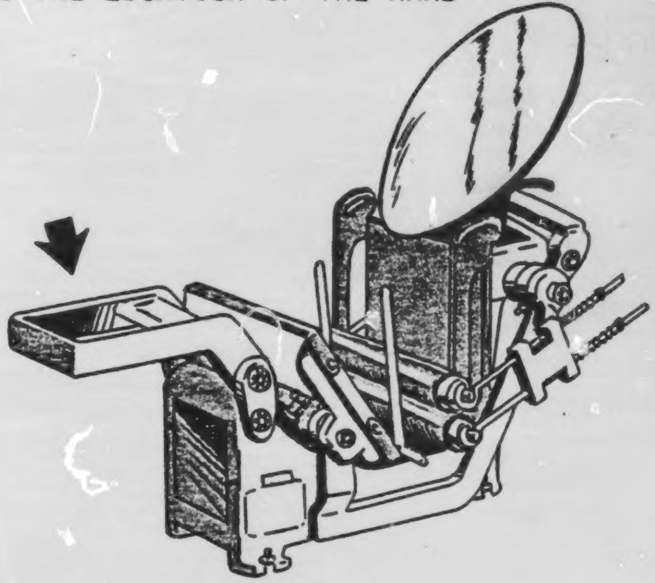
1. YOU CAN NAME THE 6 MAJOR PARTS OF A PLATEN PRESS.
2. YOU CAN INSPECT AND INK THE PRESS.
3. YOU CAN TAKE OFF, MEASURE TO 040" AND DRESS THE PLATEN SO IT IS READY TO PRINT.

A TAPE OF THIS MODULE IS AVAILABLE.

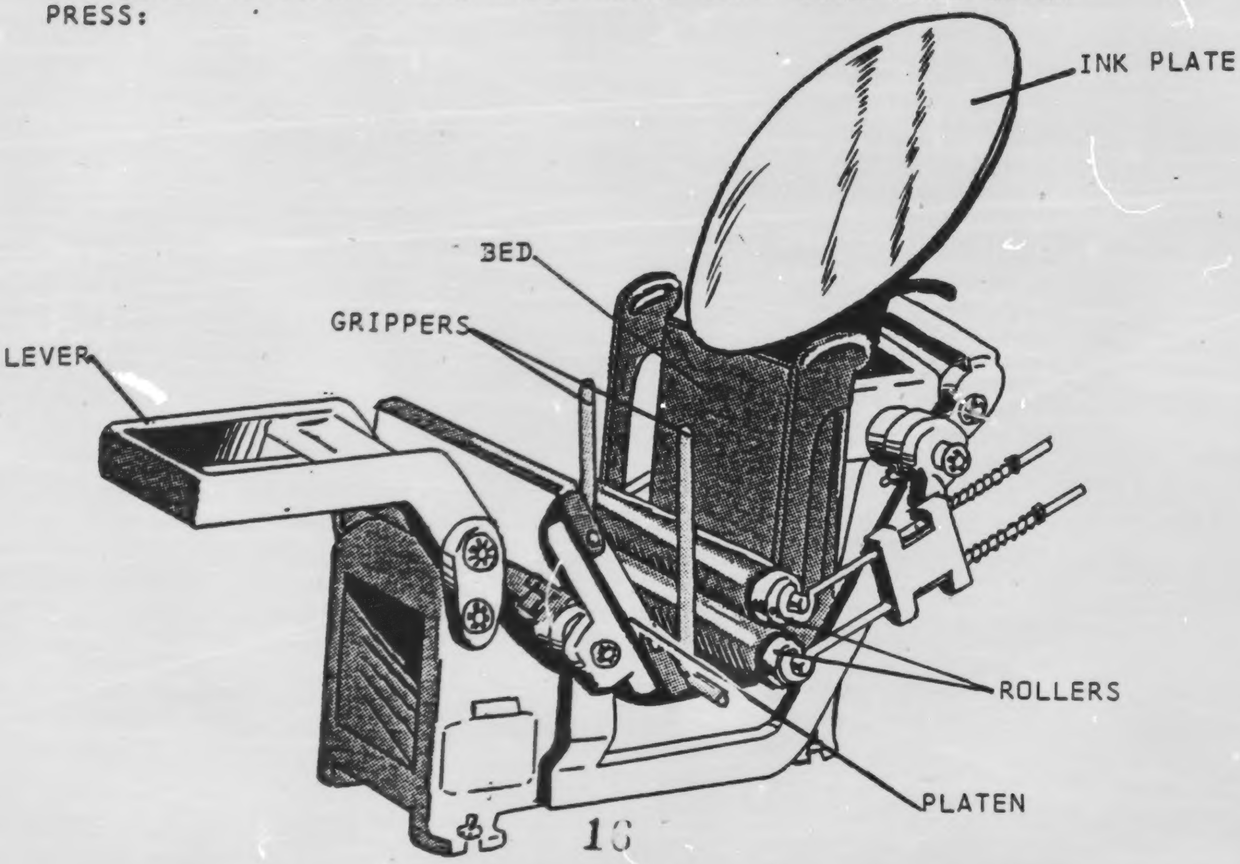
INFORMATION

THERE ARE 2 COMMON SMALL-HAND LEVER PLATEN PRESSES IN USE TODAY. THE MAIN DIFFERENCE IS THE LOCATION OF THE HAND LEVER:





HERE ARE SOME OF THE MAJOR PARTS ON A SMALL HAND LEVER PRESS:


INK PLATE
BED
GRIPPERS
LEVER
ROLLERS
PLATEN

WORD GUIDE

TYMPAN - OILED, HEAVY PAPER.

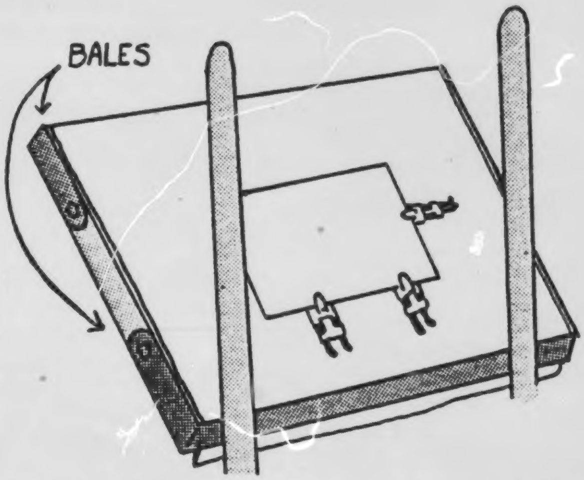
INFORMATION

TO PRINT WITH A SMALL HAND LEVER PLATEN PRESS:

1. PLACE YOUR CARD ON THE PLATEN.
2. PUSH THE LEVER DOWN (THE 2 ROLLERS GO UP OVER THE TYPE FROM, WHICH IS IN THE BED, TO THE INK PLATE AND THE PLATEN WILL CLOSE, PUSHING THE INKED TYPE ON TO THE CARD.
3. LET GO OF THE LEVER AND THE PRESS OPENS (THE ROLLERS GO DOWN OVER THE TYPE AGAIN).
4. TAKE OUT YOUR CARD (THE GRIPPERS WILL HOLD THE CARD TO THE PLATEN WHEN THE PRESS OPENS).

YOU CAN PRINT 500 OR 600 CARDS PER HOUR ON A SMALL HAND-LEVER, PLATEN PRESS BECAUSE THE TYPE FORM IS INKED FOR YOU EACH TIME THE ROLLERS PASS OVER IT.

THE CARD ON THE PLATEN IS HELD IN PLACE BY THREE GAUGE PINS ON THE TYMPAN PAPER. THIS TYMPAN PAPER IS HELD ON THE PLATEN BY THE TWO BALES.



THE METAL CHASE (WITH THE TYPE LOCKED UP IN IT) IS LOCKED UP IN THE BED OF THE PRESS. THE TWO, SOFT, RUBBER ROLLERS WILL GENTLY "KISS" THE TYPE FORM EACH TIME THEY GO OVER IT.

INFORMATION

THE ROLLERS GET THEIR INK FROM THE ROUND INK PLATE WHICH MUST BE RE-INKED ABOUT EVERY 100 CARDS.

CAUTION: ONLY ONE PERSON SHOULD WORK THE PRESS AT ONE TIME. DO NOT ALLOW ANYONE TO WORK THE LEVER WHILE YOUR HANDS ARE IN THE PRESS.

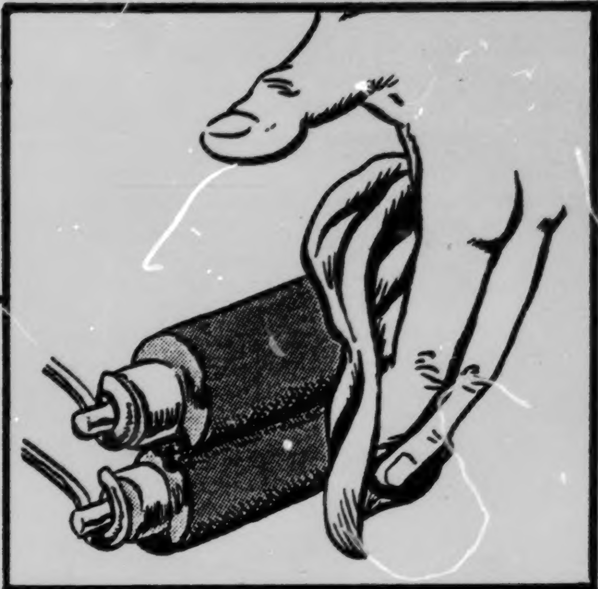
WORD GUIDE

MICROMETER - TOOL THAT MEASURES VERY CLOSELY.

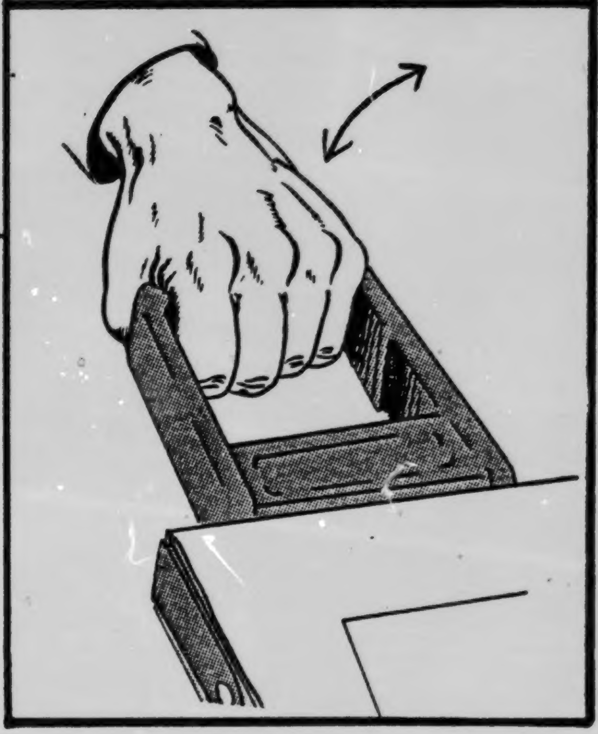
JOB STEPS

1. TAKE ALL EQUIPMENT TO YOUR WORK AREA.

2. TO GET THE PRESS READY FOR PRINTING, FIRST TAKE A RAG AND WIPE OFF ALL DUST AND OIL FROM THE WHOLE PRESS AND THE ROLLERS (THE OIL WILL KEEP THE INK PLATE AND BED FROM RUSTING).

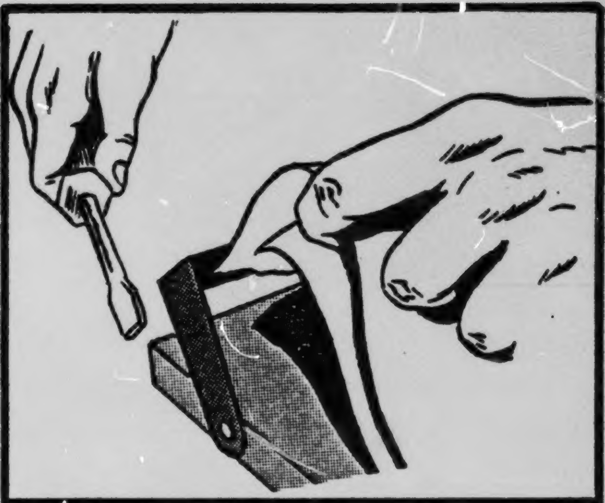


3. LOOK OVER THE PRESS CLOSELY AND NAME THE MAIN PARTS (PAGE 3). WITHOUT TYPE, SEE HOW THE PRESS PRINTS BY PUSHING DOWN AND UP ON THE LEVER.



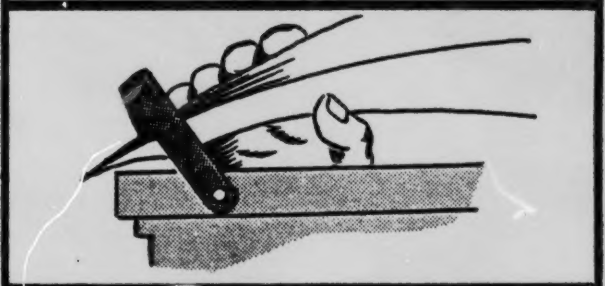
JOB STEPS

4. CHECK THE TYMPAN PAPER ON THE PLATEN. IF IT HAS BEEN USED, YOU MUST CHANGE IT. WITH A SCREWDRIVER, LIFT OPEN THE TWO BALES AND TAKE OUT ALL THE PACKING (SAVE THE 3 GAUGE PINS).

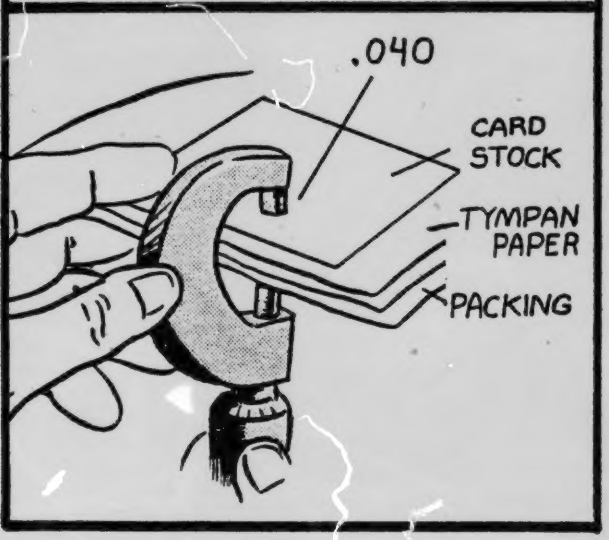


NOTE: TO SAVE MONEY, USE A PIECE OF BROWN WRAPPING PAPER FOR THE TYMPAN PAPER. USE REGULAR 8 1/2" X 11" 20# SCRAP BOND PAPER FOR THE PACKING.

5. FOLD THE WRAPPING IN HALF AND LOCK THE FOLDED EDGE UNDER THE BOTTOM BALE.

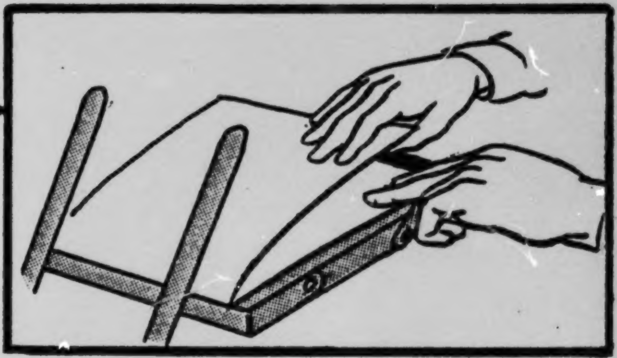


6. MOST PLATEN PRESSES ARE SET FOR A PACKING THICKNESS OF 1 MILLIMETER OR .040". USE A MICROMETER TO MEASURE THE TOTAL PACKING SO IT DOES NOT GO OVER THIS (INCLUDE THE WRAPPING PAPER, THE CARD YOU WILL BE PRINTING AND ENOUGH PACKING TO COME CLOSE TO .040"). THIS IS CALLED DRESSING THE PRESS.

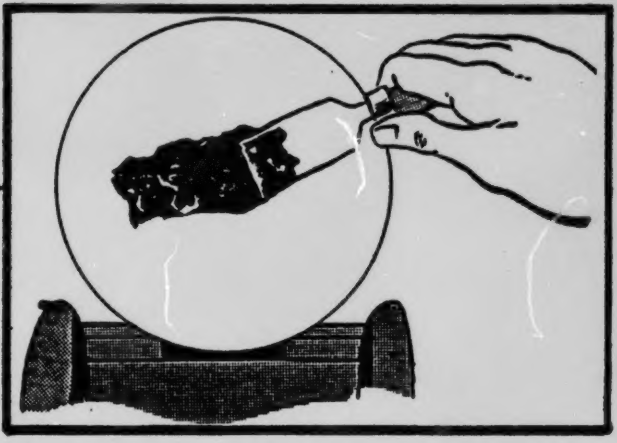


JOB STEPS

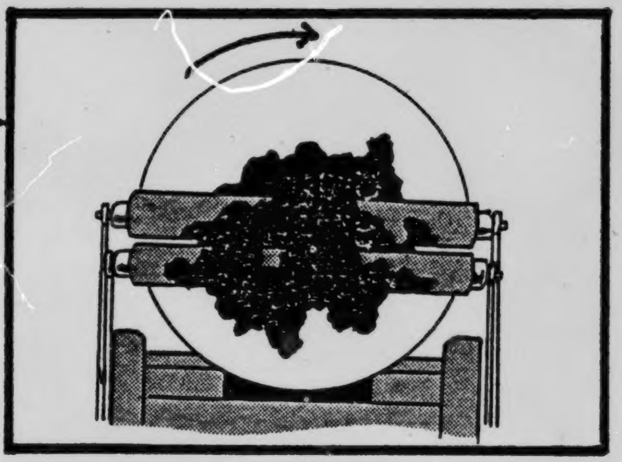
7. WHEN YOU HAVE NEARLY .040" MATERIALS, PLACE THESE UNDER THE TYMPAN (WRAPPING PAPER) ON THE PLATEN AND LOCK THE TOP BALE. BE SURE THE TYMPAN IS FLAT.



8. TO INK THE PRESS, USE YOUR CAN OF INK AND AN INK KNIFE. PLACE A VERY SMALL AMOUNT OF INK (ABOUT 1/2 THE SIZE OF A SMALL PEA) ON THE INK PLATE AND SPREAD IT A LITTLE WITH THE INK KNIFE.



9. WITHOUT THE TYPE IN THE PRESS, PUSH DOWN AND UP ON THE LEVER TO LET THE INK ROLLERS SPREAD THE INK. AS THE ROLLERS MOVE, THE INK PLATE WILL TURN.



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*********************************
*CAUTION:  INK THE PRESS SLOWLY*
*   (2 SECONDS PER CYCLE),      *
*   AS ANY FASTER MAY CAUSE     *
*   THE ROLLERS TO FLY OUT.     *
*                               *
*********************************
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10. RETURN THE MICROMETER TO THE TYPE BANK, THROW OUT OLD PAPERS AND STRAIGHTEN UP THE PRESS AREA. NOW YOU ARE SET FOR MAKEREADY.

graphics

unit: PRESSWORK

capital area career center

1401 13 104
module: 1401 13 104 3 date: DECEMBER 1977 level:

skill title: PLATEN PRESS MAKEREADY

developed & written by: GLEN PETTIT

visuals by: MIKE SMITH

WORD GUIDE

STOCK - PAPER TO BE PRINTED

MAKEREADY - TO GET A JOB READY TO PRINT, IN POSITION AND WITH EVERYTHING READABLE.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO GET POSITION AND DO MAKEREADY ON A PLATEN PRESS.

IN ORDER TO DO THIS YOU WILL NEED:

A PLATEN PRESS
STOCK, INK AND INK KNIFE
LINE GAUGE
GAUGE PINS

WE WILL KNOW YOU CAN DO IT WHEN:

1. THE IMAGE IS PROPERLY POSITIONED (PARALLEL, VERTICAL AND HORIZONTAL) TO WITHIN 1/2 MM TOLERANCE.
2. ALL WORDS AND LETTERS PRINT EVENLY WITHOUT ANY WEAK, HEAVY OR BROKEN LETTERS.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

IMPRESSION - MARK LEFT ON THE PAPER WHEN TYPE TOUCHES IT.

INFORMATION

MAKEREADY IS WHEN YOU GET ALL THINGS READY TO PRINT. EVERY LETTER MUST PRINT WITH THE SAME IMPRESSION ON THE CARD AND THE IMAGE MUST BE EXACTLY POSITIONED.

IMPRESSION: BECAUSE SOME PIECES OF METAL TYPE MAY HAVE BEEN USED MORE THAN OTHERS, THEY MAY BE WORN DOWN MORE. SOME OF THE TYPE MAY HAVE BEEN BROKEN BEFORE AND THEN PUT BACK IN THE TYPE CASE. SMALL PIECES OF LEAD COULD HAVE BEEN STUCK UNDER THE TYPE WHEN IT WAS LOCKED UP. ALL OF THESE COULD CAUSE UNEVEN IMPRESSION.

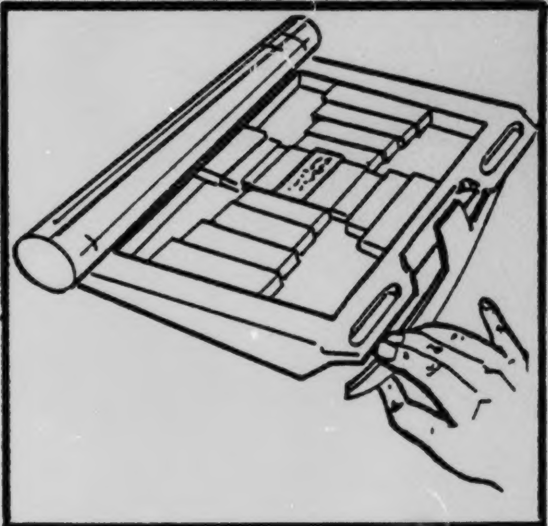
POSITION: THERE ARE THREE DIRECTIONS TO CHECK FOR IN POSITIONING: PARALLEL (STRAIGHT WITH THE EDGE OF THE PAPER; VERTICAL (UP AND DOWN POSITION); AND HORIZONTAL (RIGHT TO LEFT). IF YOU TRY SEVERAL TIMES TO GET POSITION AND CAN'T, CHECK THE TYPE FORM TO SEE IF IT IS LOCKED UP SQUARE; SEE IF THE TYMPAN PAPER IS FLAT.

INKING: ALWAYS DO MAKEREADY WITH TOO LITTLE INK ON THE PRESS SINCE YOU CAN'T SEE WEAK OR BROKEN LETTERS WHEN THE INK IS TOO HEAVY. IT TAKES EXPERIENCE TO JUDGE THE CORRECT AMOUNT OF INK BUT FRESH INK ON CARD STOCK SHOULD SMEAR ABOUT 1 CM WHEN RUBBED GENTLY WITH YOUR FINGER (SMOOTH HARD PAPER WILL SMEAR 2-3 CM).

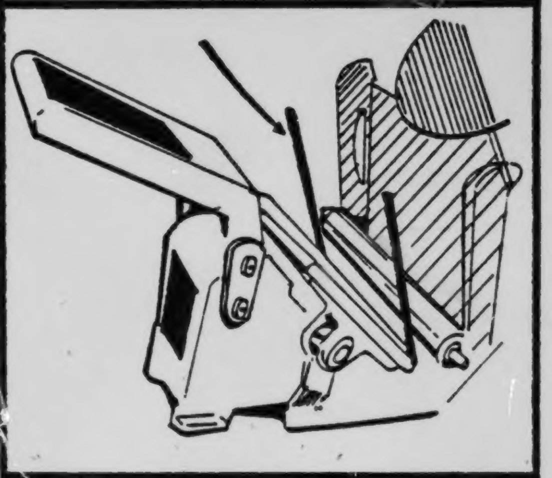
JOB STEPS

1. TAKE ALL EQUIPMENT TO YOUR WORK AREA.

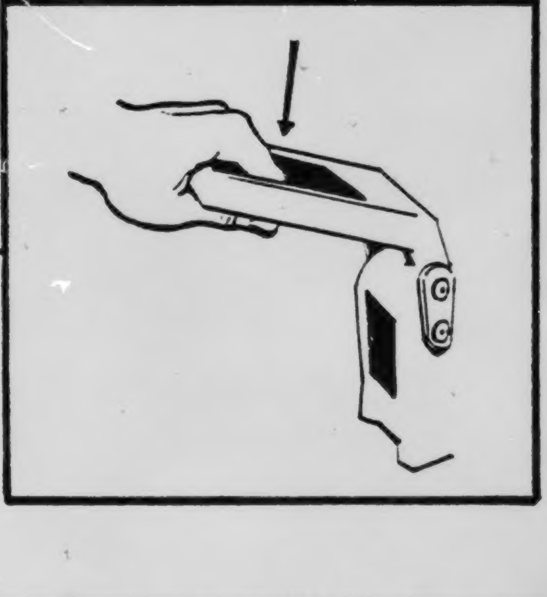
2. PLACE YOUR CHASE (WITH TYPE FORM IN IT) IN THE BED OF THE PRESS WITH THE ORANGE EDGE UP. BE SURE THE LOCK UNDER THE INK PLATE IS LOCKED ON THE CHASE TOP.



3. CHECK THE POSITION OF THE 2 GRIPPERS BEFORE CLOSING THE PLATEN. BE SURE THEY DO NOT HIT THE TYPE. USE A SCREWDRIVER TO LOOSEN THE SCREW THAT MOVES THEM.



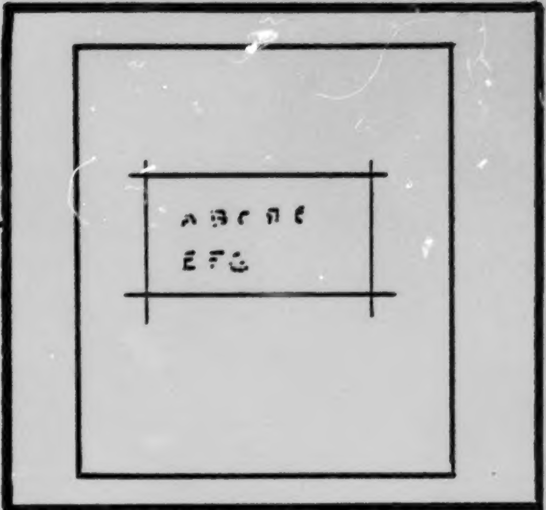
4. NOW MAKE AN IMPRESSION ON THE TYMPAN. CLOSE THE PRESS SLOWLY, THEN OPEN IT, MAKING WEAK PRINT ON THE TYMPAN (IT IS WEAK BECAUSE THE THICKNESS OF YOUR CARD IS NOT ADDED YET).



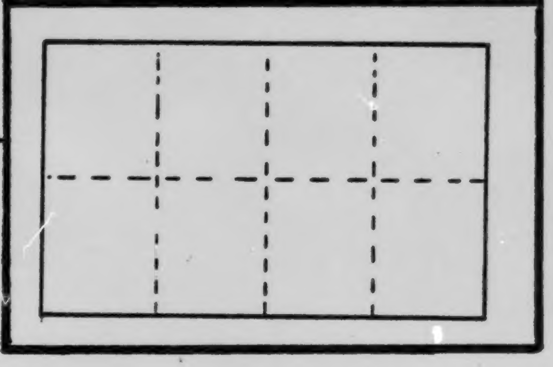
JOB STEPS

5. USE A PENCIL AND LINE GAUGE TO DRAW THE SIZE OF THE CARD YOU WILL BE PRINTING ONTO THE TYMPAN PAPER.

6. DRAW THE CARD SIZE AROUND THE IMAGE OR PRINT SO IT IS CENTERED LIKE YOU WANT IT TO ON THE CARD.

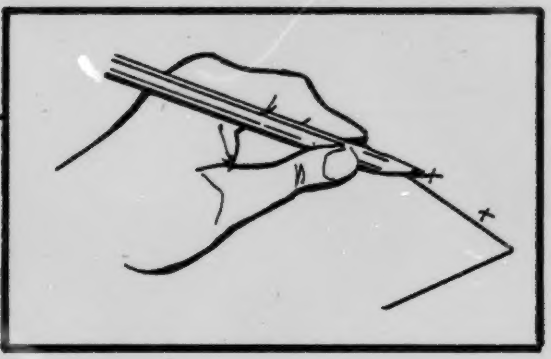


7. TAKE ONE OF THE CARDS YOU WILL BE PRINTING AND FOLD IT IN HALF THE SHORT WAY AND THEN IN QUARTERS THE LONG WAY, AS SHOWN.



8. PLACE THIS CARD ON THE TYMPAN TO CHECK YOUR POSITIONING.

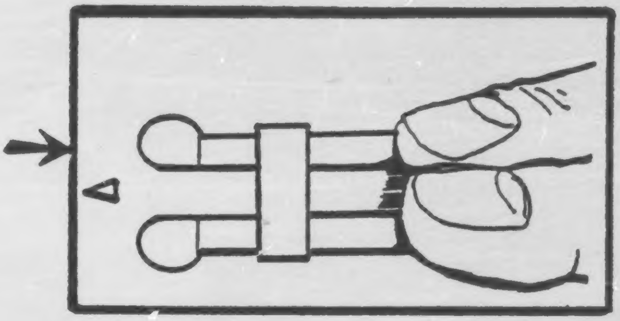
9. MARK THE POSITION FOR THE 3 GAUGE PINS WITH AN X, AS SHOWN (ONE GAUGE PIN CENTERED ON THE LEFT, AND 2 GAUGE PINS ON THE TOP OF THE CARD (BOTTOM AS YOU STAND AT THE PRESS) AND 1/4 THE WAY IN FROM EACH END):



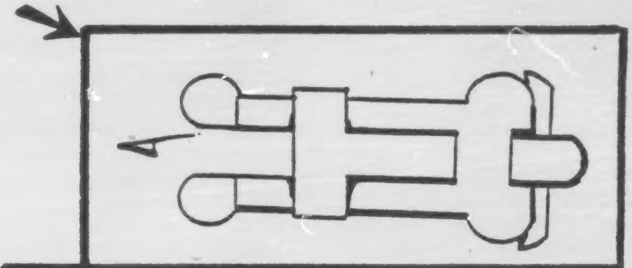
JOB STEPS

10. PRACTICE THIS NEXT STEP ON SCRAP PAPER FIRST: TO INSERT A GAUGE PIN:

A. FIRST SLIDE YOUR LINE GAUGE UNDER THE TYMPAN TO WHERE YOUR GAUGE PIN WILL GO IN.

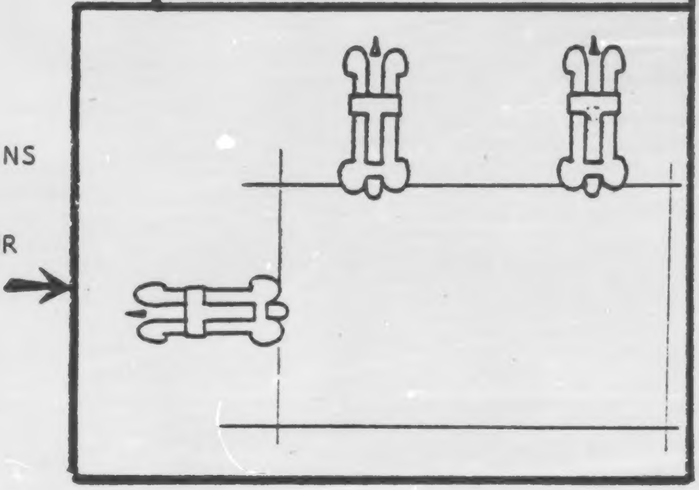


B. PUSH THE SHARP POINT OF THE PIN INTO THE TYMPAN, 3 MM OUTSIDE THE LINE, AND DOWN UNTIL THE FEET OF THE GAUGE PIN ARE 3 MM INSIDE THE LINE.



11. WITH YOUR THUMB, PRESS THE TYMPAN PAPER NEAR WHERE THE SHARP POINT IS SO IT WILL COME THROUGH. KEEP PUSHING THE GAUGE PIN THE LAST 3 MM SO THE FEET ARE ON THE LINE YOU DREW AND THE POINT STICKS OUT OF THE PAPER 3 MM.

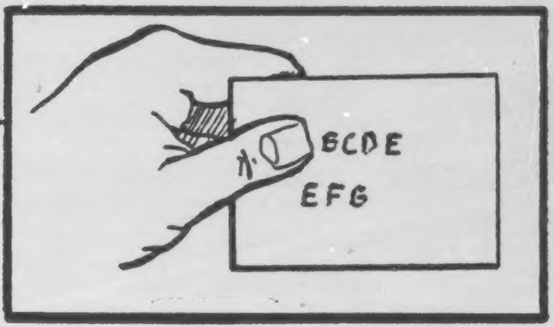
12. WHEN YOU FEEL YOU CAN DO THIS, PUT IN THE THREE GAUGE PINS FOR YOUR JOB, AS SHOWN. HAVE YOUR INSTRUCTOR OR AN ADVANCED STUDENT CHECK YOUR GAUGE PIN FOR YOU TO BE SURE THEY WILL NOT SMASH THE TYPE.



13. AFTER THE GAUGE PINS AND GRIPPERS HAVE BEEN DOUBLE-CHECKED AND THE TYMPAN CLEANED WITH A DRY RAG, MAKE A PRINT ON ONE OF YOUR CARDS.

JOB STEPS

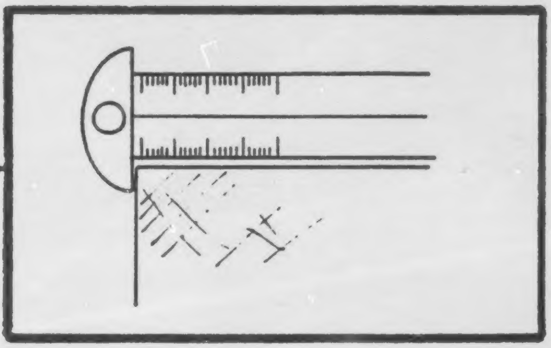
14. FIRST, CHECK IMPRESSION: TOO LIGHT AND THE WORDS ARE WEAK; TOO HEAVY THE WORDS ARE DARK AND THERE IS AN IMPRESSION OR DENT ON THE BACK OF THE CARD.



15. REMOVE PACKING SO YOU WON'T SMASH THE TYPE WHEN THE IMPRESSION IS TOO HEAVY.

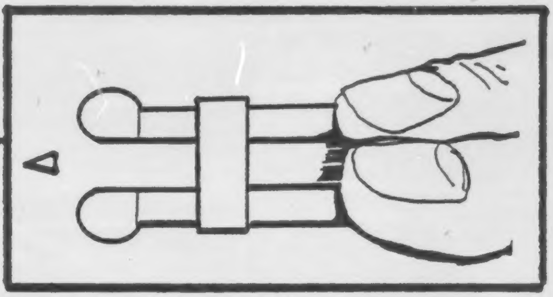
16. WEAK IMPRESSION COULD BE LACK OF INK. SEE IF THE PRINTED IMAGE WILL SMEAR BEFORE ADDING PACKING. WHEN GENTLY RUBBED WITH YOUR FINGER, FRESH INK SHOULD SMEAR ABOUT 1 CM, IF RIGHT.

17. NOW, USING A LINE GAUGE CHECK FOR POSITION. CHECK PARALLEL, VERTICAL AND HORIZONTAL POSITIONS.



18. TO GET THE EXACT POSITION, MOVE YOUR GAUGE PINS, JUST A LITTLE EACH TIME. IT MAY TAKE 3 OR 4 PRINTS TO GET THE EXACT POSITION WITHIN 1/2 MM. HAVE YOUR INSTRUCTOR CHECK YOUR POSITION IN WRITING ON YOUR CARD.

19. WHEN YOU HAVE POSITION, GENTLY PUSH DOWN THE FEET OF YOUR GAUGE PINS INTO THE TYMPAN PAPER.



JOB STEPS

20. A GOOD IMPRESSION MEANS THAT ALL THE WORDS AND LETTERS PRINT CLEAN AND ARE NOT BROKEN. CHECK YOUR WHOLE IMPRESSION TO SEE IF ALL LETTERS ARE PERFECT. CHANGE ANY BROKEN LETTERS. IF IT IS NEEDED, ASK INSTRUCTOR TO HELP YOU DO SPECIAL WORD OR LINE MAKE-READY.

21. CLEAN UP THE AREA AND THROW OUT ALL SCRAP PAPERS AND CARDS.

22. CLEAN THE COUNTER AND TOOLS IF NEEDED. BE SURE THE TYMPAN IS CLEAN. YOU ARE NOW READY FOR THE NEXT MODULE AND PRINTING.

graphics

unit: PRESSWORK

capital area career center

1401 13 105
module: 1401 13 105 3 **date:** DECEMBER 1977 **level:**

skill title: PRINTING AND CLEAN-UP ON A PLATEN PRESS

developed & written by: GLEN PETTIT

visuals by: MIKE SMITH

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO FEED, DELIVER FROM AND CLEAN-UP A PLATEN PRESS.

IN ORDER TO DO THIS YOU WILL NEED:

A PLATEN PRESS

STOCK

CLEANING SOLVENTS AND RAG

A QUIZ

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN FEED AND DELIVER STOCK WITHOUT MISSES, SMEARING, DIRT AND IN PERFECT POSITION EACH TIME.
2. YOU CAN CLEAN THE PRESS, ROLLERS AND TYPE.
3. YOU CAN PASS A QUIZ WITH 100% ACCURACY.

A TAPE OF THIS MODULE IS AVAILABLE.

JOB STEPS

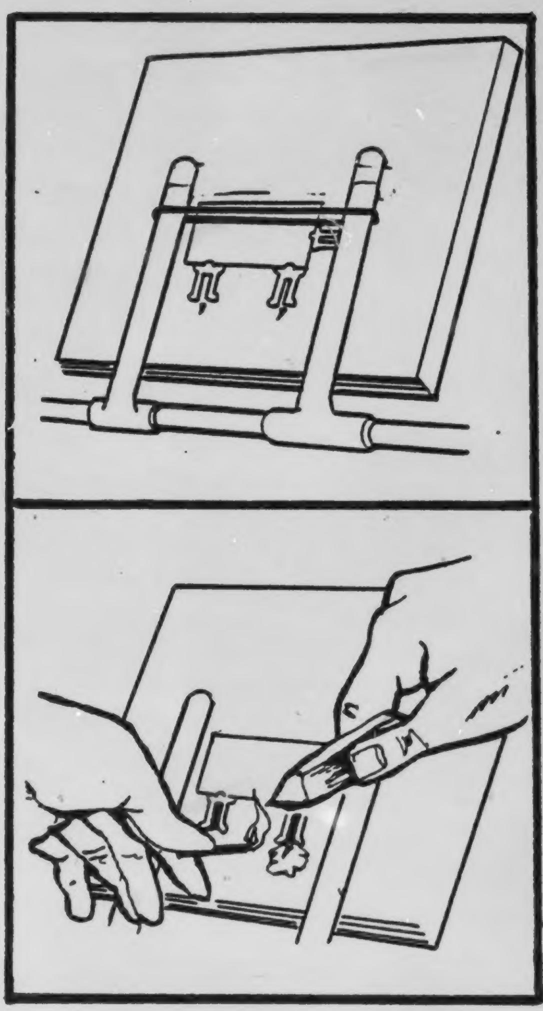
1. TAKE ALL EQUIPMENT TO YOUR WORK AREA.

2. YOU SHOULD HAVE JUST FINISHED MAKEREADY, POSITIONED THE JOB AND SHOULD BE READY TO PRINT. PUT IN A CARD ON THE GAUGE PINS AND PRINT ON IT, BUT DO NOT TAKE IT FROM THE PRESS.

3. CHECK THE BRASS TONGUES OF THE THREE GAUGE PINS, MOVE THEM OUT 5 MM SO THEY HOLD THE PAPER DOWN FLAT BUT BE SURE THEY ARE AT LEAST 2 MM AWAY FROM ANY IMAGE.

4. YOU CAN ALSO MOVE THE GRIPPERS IN TO HELP HOLD THE CARDS DOWN (LOOSEN THE BOTTOM SCREW), BUT BE CAREFUL OF THE IMAGE AREA AND GUAGE PINS (THEY WILL SMASH THEM TOO). A RUBBER BAND OR STRING CAN BE USED BETWEEN THE 2 GRIPPERS FOR EXTRA HOLD-DOWN, BUT BE SURE TO TAPE IT TO THE GRIPPERS SO IT CAN'T MOVE.

5. IF YOUR JOB HAS MORE THAN 150 PRINTINGS, YOU CAN SEAL THE POINTS OF THE GAUGE PINS WITH A SPECIAL RED SEALING WAX AND A MATCH.



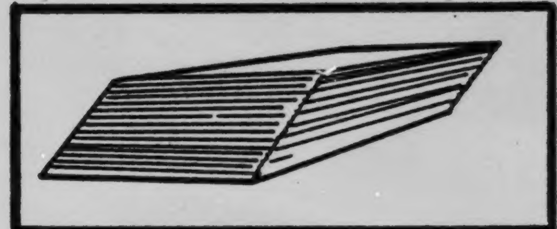
WORD GUIDE

LIVE JOB - ACTUAL PRODUCTION JOB FOR A CUSTOMER.

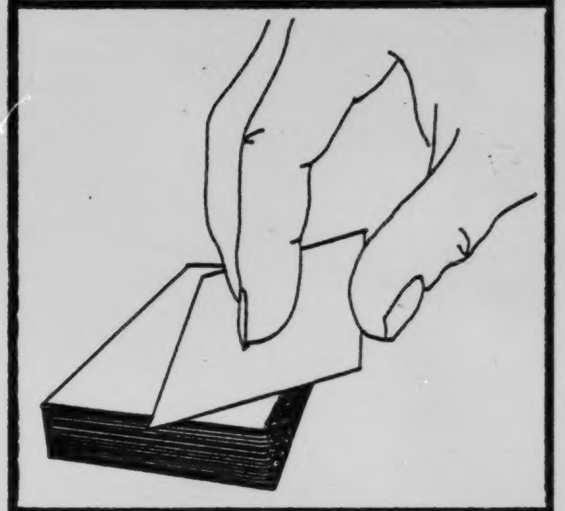
JOB STEPS

6. IF THERE IS ANY WET INK ON THE TYMPAN, USE A DRY RAG TO REMOVE IT (LIQUID CLEANERS WILL WEAKEN THE PAPER) AND THEN USE A LITTLE 'BABY POWDER' TO KEEP THE INK FROM 'OFFSETTING' WHILE YOU ARE PRINTING.

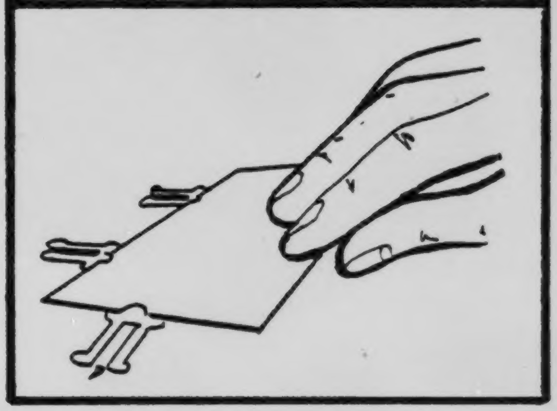
7. FAN YOUR CARDS OUT A LITTLE SO THE PILE LOOKS LIKE THIS WHEN ON THE COUNTER. THIS WAY YOU CAN PICK UP ONE CARD AT A TIME FROM THE PILE.



8. TO PICK UP CARDS, PLACE TWO FINGERS ON THE TOP CARD, PULL IT TOWARD YOU A LITTLE THEN PICK IT UP WITH YOUR THUMB.

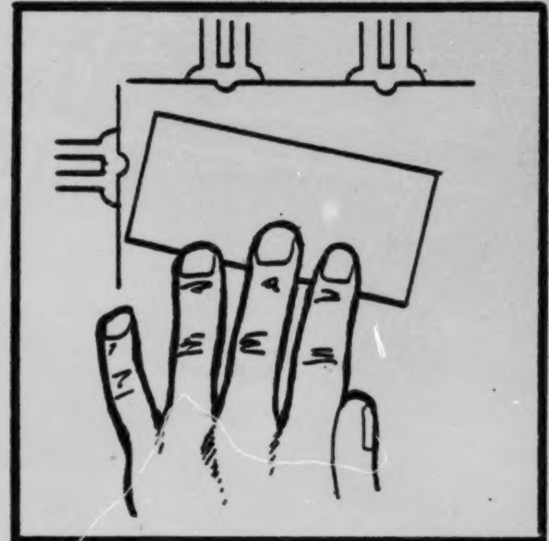


9. PLACE THE CARD GENTLY ON THE BOTTOM TWO GAUGE PINS AND SLIDE THE CARD TO THE LEFT GAUGE PIN. TRY TO DO THIS WITH ONE SMOOTH MOTION. IF YOU MOVE TOO FAST OR HARD, THE CARD WILL BOUNCE BACK AWAY FROM THE SIDE GAUGE PIN.

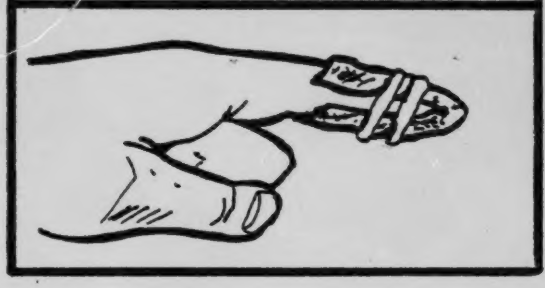


JOB STEPS

10. TO REMOVE A CARD WHEN IT IS PRINTED, USE 2 OR 3 FINGERS FROM YOUR LEFT HAND, TO PULL THE CARD UP TO THE TOP BALE. WITH YOUR THUMB, GENTLY REMOVE THE CARD TO THE DELIVERY.

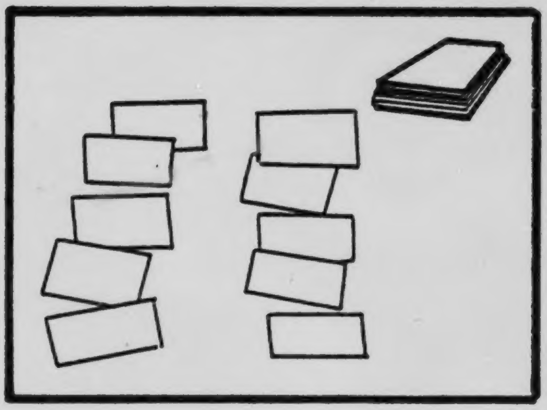


11. IF YOU FIND THAT YOUR FINGERS CAUSE THE INK TO SMEAR OR LEAVE INK ON THE EDGE OF THE CARD, PUT A SMALL STRIP OF SANDPAPER AROUND THE END OF YOUR FINGER.



12. WHILE PRINTING, YOU MAY HAVE TO ADD A LITTLE INK EVERY 50 TO 150 CARDS. WHEN YOU HAVE THE PERFECT AMOUNT OF INK, TAPE THIS EXAMPLE NEARBY AND COMPARE EVERY 25TH CARD WITH THE EXAMPLE. IT IS BEST TO TAKE THE CHASE AND TYPE FORM OUT OF THE PRESS WHEN INKING.

13. FOR THIS MODULE, YOU ARE TO PRINT AT LEAST 50 PERFECT CARDS (OR MORE, IF A LIVE JOB). IF THE STOCK YOU ARE USING IS SOFT AND WILL SOAK IN THE INK, YOU MAY PLACE THE CARDS IN A NEAT DELIVERY PILE AS THEY ARE PRINTED. IF THE STOCK IS HARD, SMOOTH AND COATED, THE CARDS MUST BE STEPPED OUT SO THE INK WILL DRY. IT IS BEST TO USE A PIECE OF BOARD OR CARDBOARD WHEN STEPPING OUT, SO THE CARDS CAN BE MOVED TO A DRYING AREA LATER.

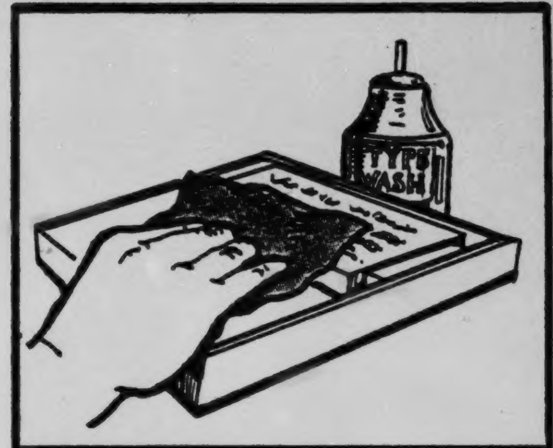


JOB STEPS

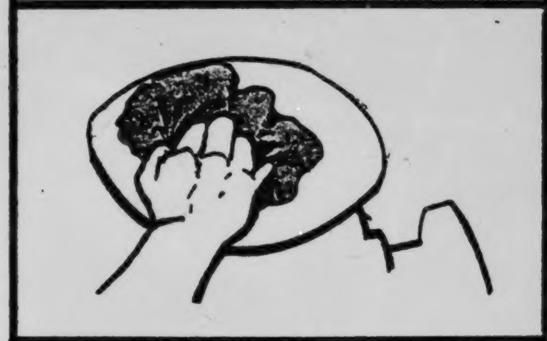
14. ALWAYS PRINT 5 OR 10 MORE CARDS THAN THE CUSTOMER WANTS BECAUSE YOU MAY SMEAR AND DIRTY SEVERAL IN HANDLING THEM LATER.

15. WHEN FINISHED PRINTING REMOVE ALL THE PRINTED STOCK TO A SAFE DRYING AREA. REMOVE THE CHASE TO THE STONE AND CLEAN THE TYPE WITH TYPE WASH.

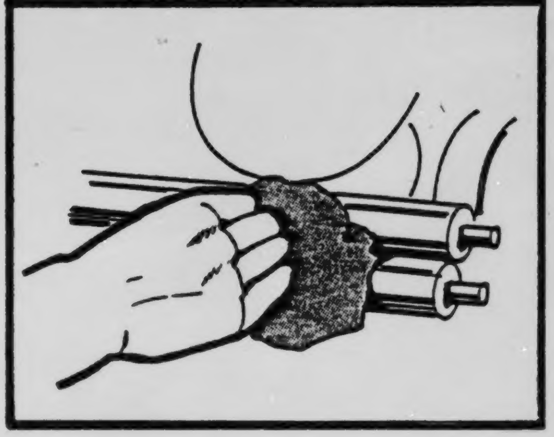
NOTE: TYPE WASH EVAPORATES QUICKLY AND IS EXPENSIVE, SO USE IT WITH CARE. USE ONLY A CORNER OF THE RAG AND CLEAN THE TYPE QUICKLY, GENTLY RUBBING IN CIRCLES. DO NOT USE A NEW CLEAN RAG FOR CLEAN UP.



16. CLEAN THE INK DISK USING BLANKET WASH AND A RAG. FOLD THE RAG SO YOU HAVE THE EDGES OF THE RAG OUT FOR CLEANING, POUR THE CLEANER ON THE RAG AND, MOVING IN SMALL CIRCLES, WIPE THE INK DISK CLEAN.



17. RAISE THE ROLLERS SO THEY ARE NEAR THE INK DISK AND WIPE THE TOP ROLLER CLEAN. YOU CAN EASILY TURN THE ROLLER BY HAND.



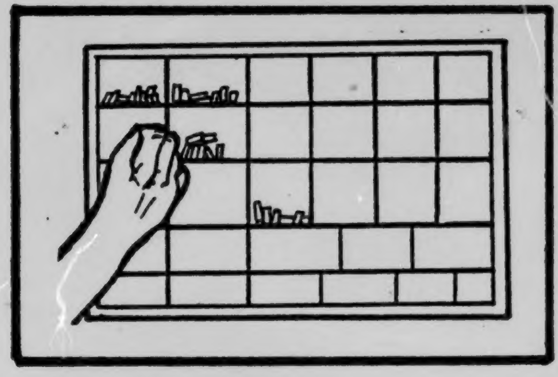
JOB STEPS

18. CLEAN THE 2ND ROLLER THE SAME WAY. DO NOT RUB THE ROLLER; USE ENOUGH BLANKET WASH SO YOU CAN WIPE THE ROLLERS EASILY. BE SURE TO CLEAN THE ROLLER WHEELS ALSO AT THE ENDS OF THE ROLLERS. DO NOT REMOVE THE ROLLERS FROM THE PRESS.

19. CLEAN THE INK KNIFE, THE INK CAN LID AND TOP OF THE INK CAN. PUT THEM AWAY.

20. CLEAN UP THE PRESS AREA. TAKE A SMALL COTTON PAD AND WIPE A THIN LAYER OF OIL OVER THE INK DISH AND ROLLERS TO COVER THEM. BE SURE TO PUT THE DIRTY RAG IN THE METAL SAFETY CAN.

21. UNLOCK YOUR CLEAN TYPE FORM ON THE STONE. PUT THE CHASE, QUOINS AND FURNITURE BACK WHERE THEY BELONG.



22. WITH CARE, PUT YOUR TYPE BACK INTO THE RIGHT CASES. BE SURE EACH PIECE GETS INTO ITS RIGHT BOX (ALLOW 1/4 HOUR FOR THIS). RETURN THE LEADS AND SLUGS.

23. WHEN ALL DONE, TAKE THE SELF QUIZ ON THE NEXT PAGE AND CHECK YOUR ANSWERS (CORRECT ANY QUESTIONS YOU MISS). ANSWERS ARE AT THE BOTTOM OF THIS PAGE.

24. SHOW THE ENTIRE FINISHED JOB TO YOUR INSTRUCTOR (ALL 50 CARDS). HE/SHE WILL CHECK YOUR WORK (POSITION AND IMPRESSION), THE PRESS, THE TYPE CASES AND YOUR ANSWER SHEET.

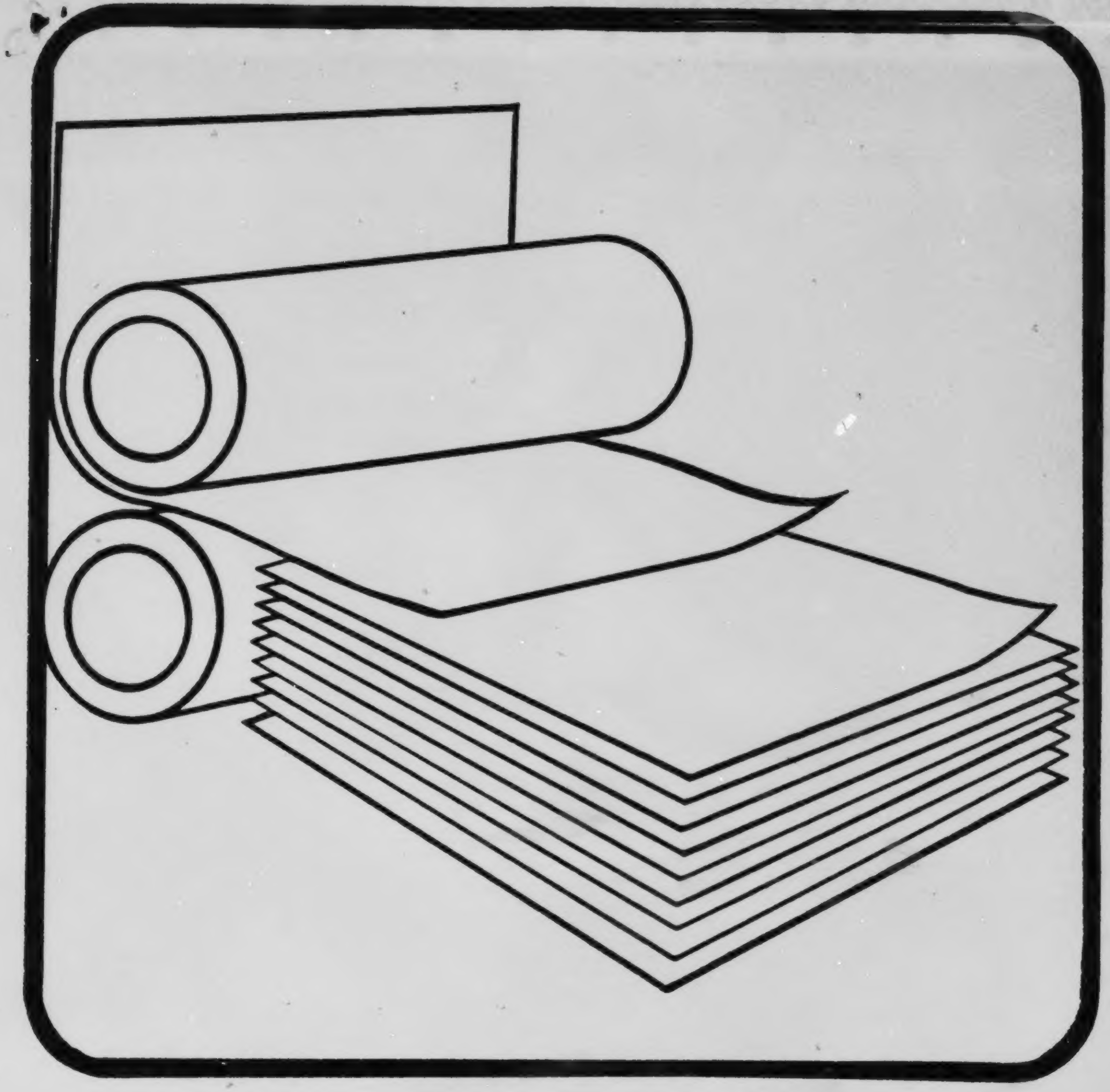
SELF QUIZ

WRITE YOUR ANSWERS ON A SEPARATE SHEET OF PAPER. CHECK YOUR ANSWERS WHEN FINISHED. GO BACK INTO THE LAST FOUR MODULES TO FIND ANY ANSWERS YOU ARE NOT SURE OF.

1. A TYPE FORM IS LOCKED-UP IN A METAL _______ USING A KEY WHICH TIGHTENS TWO ________.
2. "SOUNDING" MEANS TO CHECK TO SEE IF ANY ______ WILL FALL OUT.
3. THE WOOD THAT IS USED IN LOCK-UP IS CALLED ____________.
4. THE LARGE THICK METAL TABLE USED FOR LOCK-UP IS CALLED A ______.
5. WHAT DOES "DRESSING THE PLATEN" MEAN?
6. WHAT ARE "BALES"?
7. WHAT THICKNESS ARE OUR PLATEN PRESSES PACKED FOR?
8. WHAT DO WE USE TO MEASURE PAPER THICKNESS?
9. ON A PLATEN PRESS, WE USE THREE ______________ TO HOLD THE PAPER IN POSITION ON THE TYMPAN.
10. NAME THREE THINGS YOU CAN DO IF THE TYPE FORM AND PAPER CARDS STICK TOGETHER WHEN PRINTING.
11. WHAT WOULD YOU DO IF YOUR FINGER WAS SMEARING THE INK DURING DELIVERY?
12. WHAT IS THE BEST CHEMICAL TO USE WHEN CLEANING TYPE?
13. WHY DO WE WIPE OIL ON THE INK DISK?
14. ON A PRESS, WHAT IS THE BED USED FOR?
15. ON A PRESS, WHAT DOES THE PLATEN DO?
16. HOW MANY PICAS ARE THERE IN ONE INCH?
17. HOW MANY POINTS THICK IS A SLUG?
18. NAME THE THREE THINGS TO CHECK FOR WHEN GETTING POSITION.
19. WHAT IS AN IMPRESSION?
20. WHAT IS "MAKE-READY"?
21. GIVE TWO REASONS WHY SOME TYPE MAY NOT PRINT A GOOD IMPRESSION.
22. WHICH HAND SHOULD BE USED TO FEED STOCK INTO A PRESS?

ANSWERS TO SELF QUIZ

1. CHASE, QUOINS 2. TYPE 3. FURNITURE 4. STONE
5. PUTTING THE TYMPAN AND PACKING ON 6. THEY HOLD THE
TYMPAN TO THE PLATEN. 7. 1 MM OR .040" 8. MICROMETER
9. GUAGE PINS 10. (1) MOVE OUT TONGUE ON GAUGE PINS
(2) MOVE IN GRIPPERS (3) USE RUBBER BAND BETWEEN GRIPPERS
11. USE A PIECE OF SANDPAPER ON YOUR FINGER 12. TYPE WASH
13. PREVENT RUST 14. HOLDS CHASE AND TYPE FORM.
15. PRESSES PAPER AGAINST TYPE TO PRINT 16. 6 17. 6
18. (1) PARALLEL (2) VERTICAL (3) HORIZONTAL
19. A PRINT OF THE TYPE 20. GETTING EVERYTHING IN POSITION
AND READABLE SO IT IS READY TO PRINT 21. (1) WORN OR
DAMAGED TYPE (2) NOT ENOUGH IMPRESSION (NOT ENOUGH INK)
22. RIGHT



graphics

unit: PRESSWORK

capital area career center

1401 13 106
module: 1401 13 106 3 **date:** DECEMBER 1977 **level:**

skill title: PRODUCING A 2-COLOR JOB ON A PLATEN PRESS

developed & written by: GLEN PETTIT

visuals by: MIKE SMITH

WORD GUIDE

FRISKET - A PAPER MASK WHICH BLOCKS OUT PART OF A FORM

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO PRINT A 2-COLOR JOB USING A FRISKET ON A PLATEN PRESS

IN ORDER TO DO THIS YOU WILL NEED:

- A PLATEN PRESS
- A TYPE FORM
- STOCK AND INK
- FRISKET MATERIAL

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN PRINT A TWO-COLOR JOB IN PERFECT REGISTRATION ON A PLATEN PRESS WITH ONE LOCK-UP AND ONE MAKEREADY.

A TAPE OF THIS MODULE IS AVAILABLE.

JOB STEPS

1. TAKE ALL EQUIPMENT TO YOUR WORK AREA.

2. YOU SHOULD HAVE DONE ALL THE BASIC LETTERPRESS AND BASIC TYPESETTING MODS BEFORE STARTING THIS ONE.

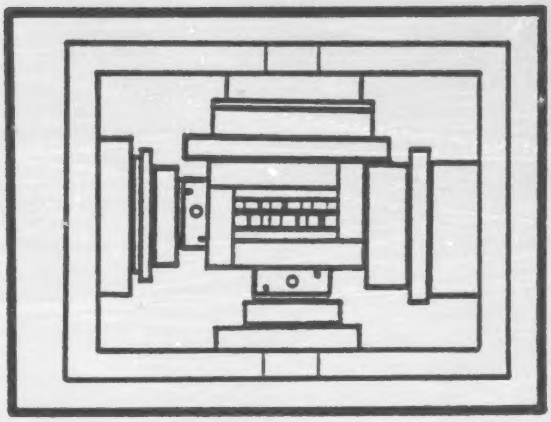
3. SHOW YOUR LAYOUT TO THE INSTRUCTOR BEFORE STARTING TO SET TYPE. SHOW WHAT WILL BE IN EACH COLOR ON A TISSUE OVERLAY.

NOTE: YOU MAY COMBINE THIS TYPE COMPOSITION WITH MODULE 1401 08 010 "HAND-SET TYPE: A SMALL FORM"

4. LOCK UP THE JOB IN A CHASE AS YOU DID FOR MOD 1401 13 102 "PLATEN PRESS LOCK UP".

5. PREPARE THE PLATEN PRESS FOR PRINTING AND DO NORMAL MAKEREADY, JUST AS IF THE ENTIRE FORM IS TO BE RUN IN ONE COLOR.

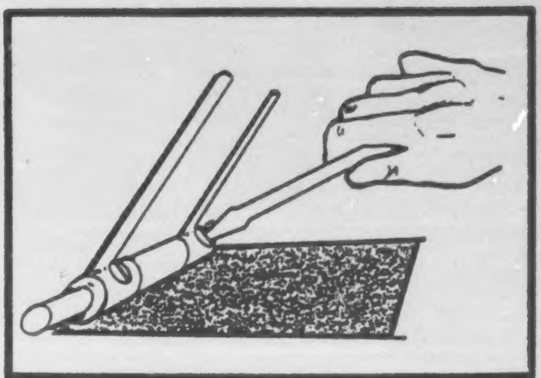
6. WHEN YOU HAVE POSITION, SEAL THE GAUGE PINS WITH SEALING WAX.



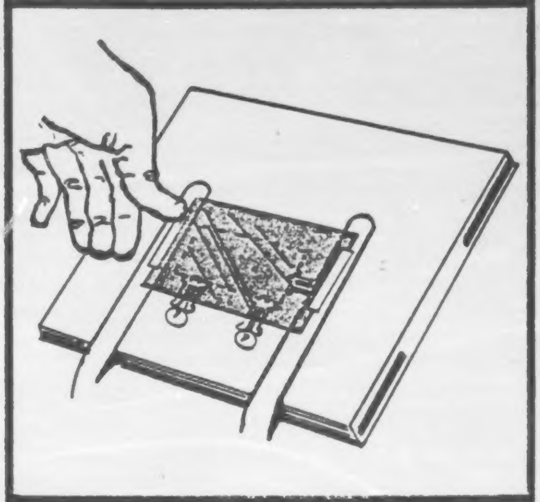
CAUTION: BE SURE THERE ARE NO MATERIALS, SOLVENTS OR RAGS AROUND WHICH COULD BURN. ALSO, SINCE THE MELTED SEALING WAX IS VERY HOT, BE CAREFUL. HAVE ANOTHER STUDENT NEARBY WATCHING YOU TO HELP IF NECESSARY. BE SURE YOU KNOW WHERE TO FIND THE FIRE EXTINGUISHER AND WHAT KIND OF FIRST-AID TO GIVE FOR MINOR BURNS.

JOB STEPS

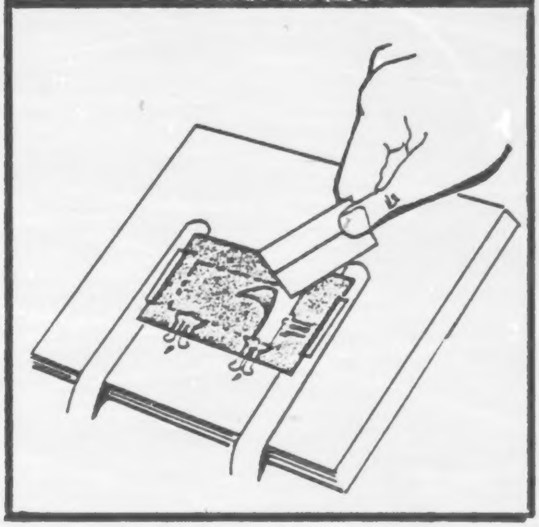
7. MOVE IN THE TWO GRIPPER BARS SO THEY ARE NEAR THE STOCK YOU ARE PRINTING (BE SURE THE LEFT ONE DOESN'T HIT THE LEFT GAUGE PIN). BE SURE THE GRIPPERS ARE SCREWED DOWN TIGHT.



8. CUT A PIECE OF TRACING PAPER (THIN PLASTIC-LIKE) SO IT GOES FROM ONE GRIPPER BAR TO THE OTHER. TAPE THE TRACING PAPER TO BOTH GRIPPERS. THIS MARK IS CALLED A FRISKET.

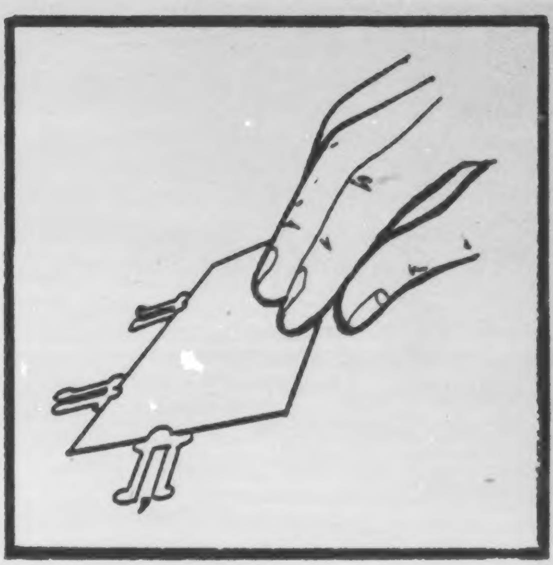


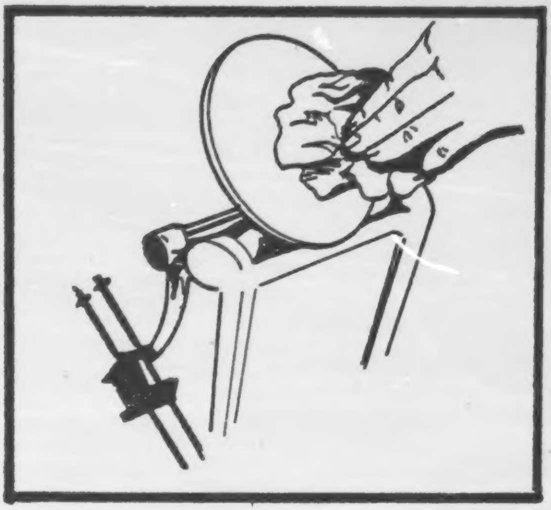
9. MAKE A PRINT RIGHT ON THE FRISKET. WITH A RAZOR BLADE, CUT OUT THE IMAGE AREA YOU WANT TO PRINT IN THAT COLOR; THE FRISKET WILL BLOCK OUT THE WORDS FOR THE SECOND COLOR.



JOB STEPS

10. PRINT THE ENTIRE JOB NOW, MAKING SURE TO ALLOW EXTRA FOR SPOILAGE WHEN YOU RUN THE SECOND COLOR. TO FINISH THIS MODULE, YOU MUST RUN AT LEAST 50 PERFECT, 2-COLOR CARDS.





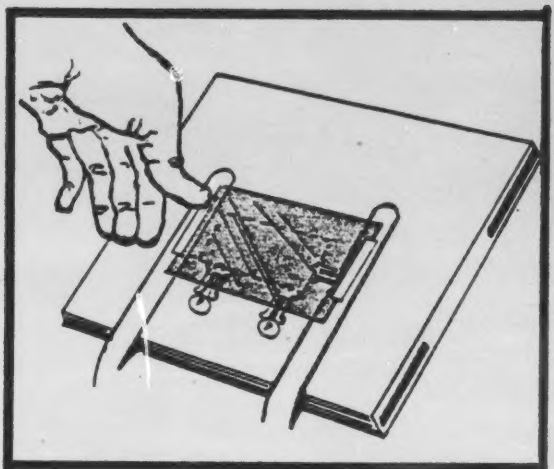
11. CLEAN THE PRESS, INK CAN AND INK KNIFE. IT IS BEST TO WAIT AT LEAST ONE DAY BEFORE RUNNING THE SECOND COLOR (YOU COULD REMOVE JUST THE TYPE FROM THE FIRST COLOR WITHOUT MOVING THE POSITION FOR THE SECOND COLOR). DON'T MOVE THE GRIPPERS, THE GAUGE PINS OR UNLOCK THE TYPE FORM.

12. INK-UP THE PRESS FOR THE SECOND COLOR. DO STEPS 8 AND 9 AGAIN WITH A NEW FRISKET. YOU SHOULD HAVE EXACT POSITION ON THE FIRST PRINT.

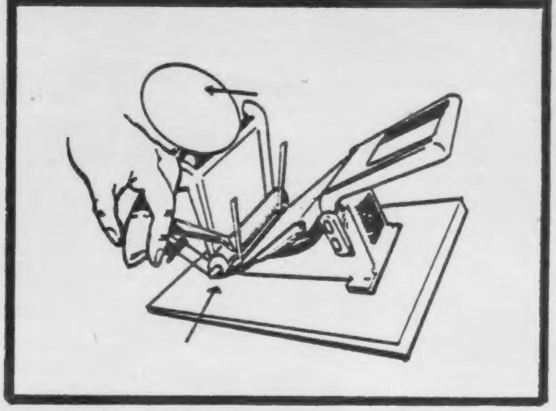
13. PRINT THE ENTIRE JOB AGAIN IN THIS SECOND COLOR. KEEP TRACK OF YOUR COUNT TO BE SURE YOU HAVE ENOUGH PRINTED.

14. WHEN DONE, REMOVE THE CHASE AND CLEAN THE TYPE.

JOB STEPS



15. REMOVE THE FRISKET AND CLEAN THE PRESS.



16. OIL THE INK DISK AND ROLLERS.

17. UNLOCK THE TYPE FORM AND MOVE THE TYPE WITH CARE.

18. SHOW ALL 50 OR MORE 2-COLOR CARDS TO YOUR INSTRUCTOR FOR CREDIT.

graphics

unit: PRESSWORK

capital area career center

1401 13 107
module: 1401 13 107 3 **date:** DECEMBER 1977 **level:** IV

skill title: BASIC PRODUCTION PRINTING ON A PLATEN PRESS (NUMBERING AND PERFORATING)

developed & written by: GLEN PETTIT

visuals by: MIKE SMITH

WORD GUIDE

PERFORATION - SMALL CUTS IN PAPER SO IT WILL TEAR EASILY.

NUMBERING - NUMBERS PRINTED ON TICKETS.

SEQUENCE - IN ORDER, LIKE 1, 2, 3, 4, 5, 6, ETC.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO DO A PRODUCTION JOB ON A PLATEN PRESS THAT NEEDS PERFORATION AND NUMBERING.

IN ORDER TO DO THIS YOU WILL NEED:

A PLATEN PRESS
STOCK, TYPE AND INK
TWO NUMBERING MACHINES
PERFORATING RULE

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN LAYOUT, COMPOSE AND LOCK-UP A FORM TO BE PRINTED ON A PLATEN PRESS WITH TWO NUMBERING MACHINES AND A PERFORATION.

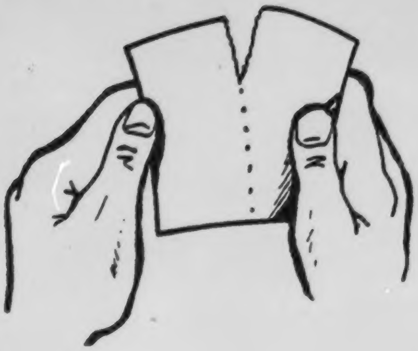
2. THE JOB IS STRAIGHT, IN POSITION WITH EVEN INKING, NUMBERS IN SEQUENCE, WITHOUT ANY SKIPS, AND THE PERFORATION IS CLEAN.

A TAPE OF THIS MODULE IS AVAILABLE.

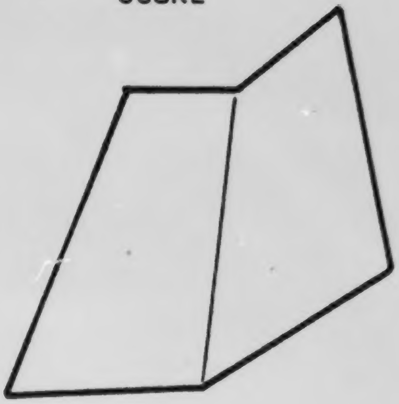
INFORMATION

A PLATEN PRESS CAN BE USED FOR MANY OTHER JOBS BESIDES PRINTING:

PERFORATING



SCORE

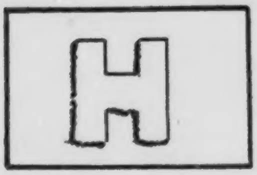


NUMBERING

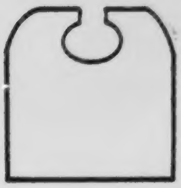
NO. 12345

NUMBERING

EMBOSSING



DIE CUT



PERFORATING: A SHARP HARD PIECE OF STEEL MAKES SMALL CUTS IN THE PAPER SO THAT WHEN YOU PULL THE PAPER, IT WILL TEAR APART WITH EASE. AN EXAMPLE IS POST CARDS THAT TEAR OUT OF A MAGAZINE.

SCORE: A HARD PIECE OF STEEL THAT CREASES OR DENTS THE PAPER SO IT WILL FOLD EASILY. IT IS USED FOR HEAVY THICK PAPER THAT WON'T FOLD ON A FOLDER.

DIE CUT: A SHARP, HARD PIECE OF STEEL THAT CUTS A SHAPE INTO THE PAPER (LIKE A RAZOR BLADE CUT). IT WORKS LIKE A COOKIE CUTTER.

NUMBERING: A SMALL MACHINE THAT PRINTS LIKE TYPE; EACH TIME THE NO. IS PRINTED, THE NUMBER CHANGES AUTOMATICALLY.

EMBOSSING: WHEN THE LETTER OR IMAGE IS RAISED UP ON THE PAPER (AND HAS A HOLLOW BACK) IT IS CALLED EMBOSSING. THIS IS DONE WITHOUT INK, USING A MALE AND FEMALE DIE TO MOLD THE PAPER AND IS AN EXPENSIVE PROCESS.

INFORMATION

NOTE: YOU DO NOT USE INK OR ROLLERS FOR PERFORATING, SCORING OR DIE CUTTING BECAUSE THEY WOULD CUT AND DAMAGE THE ROLLERS. FOR THIS MODULE, YOU WILL RUN AT LEAST 50 RAFFLE-TYPE TICKETS WITH A PERFORATING RULE, TWO NUMBERING MACHINES AND SOME TYPE.

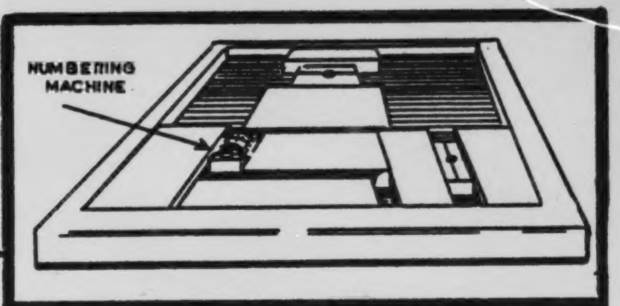
JOB STEPS

1. YOU MUST HAVE DONE ALL BASIC PLATEN PRESS AND TYPE COMPOSITION MODS BEFORE STARTING THIS ONE.

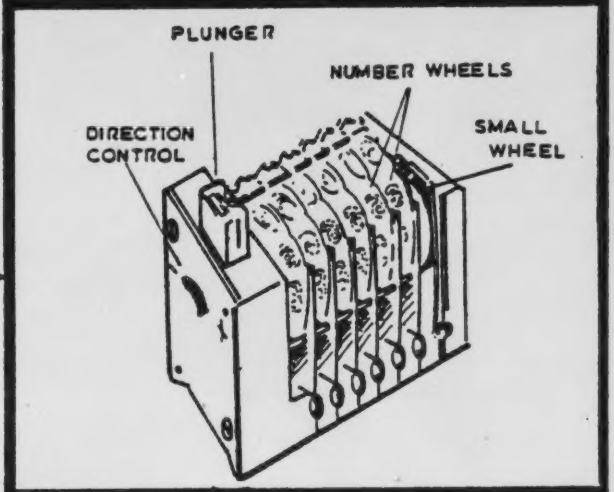
2. CHECK WITH YOUR INSTRUCTOR TO SEE IF THERE ARE ANY LINE PRODUCTION JOBS FOR A RAFFLE-TICKET TYPE JOB THAT NEEDS BOTH NUMBERING AND PERFORATING. IF NOT, MAKE UP A JOB FOR THIS MOD AND GET YOUR INSTRUCTORS APPROVAL.

3. TAKE ALL EQUIPMENT TO YOUR WORK AREA.

4. SET THE TYPE AND ADD TWO NUMBERING MACHINES TO THE LOCK-UP (DO NOT INCLUDE THE PERFORATING; IT WILL DAMAGE THE ROLLERS BECAUSE ITS SHARP CUTTING EDGE IS OVER 'TYPE-HIGH').

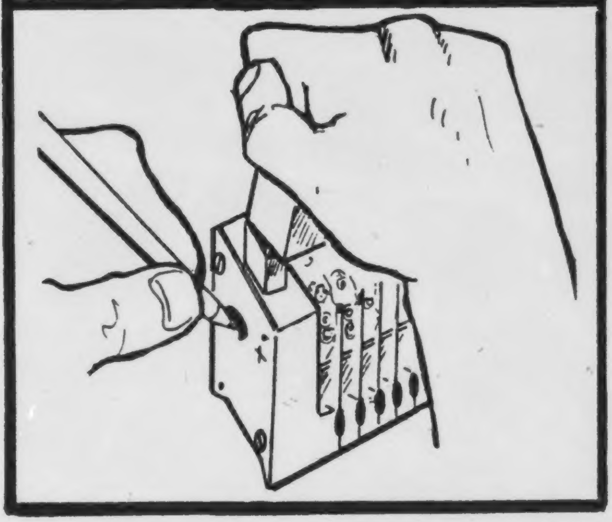


5. ASK YOUR INSTRUCTOR TO SHOW YOU HOW TO USE A NUMBERING MACHINE. IT HAS 5 OR 6 LARGE WHEELS WITH TEN NUMBERS (0 TO 9) ON EACH ONE. THE LARGE NO. IS THE PLUNGER WHICH WILL CHANGE THE NUMBERS FOR YOU EACH TIME YOU MAKE A PRINT. TURN THE WHEELS (USE A BALL POINT PEN) TO SET THE NUMBERS.



6. WITH A PIECE OF WOOD FURNITURE, PUSH THE PLUNGER DOWN TO CHANGE NUMBERS.

A. MOVE THE DIRECTION CONTROL TO FORWARD (+), THEN PUSH THE PLUNGER SEVERAL TIMES.

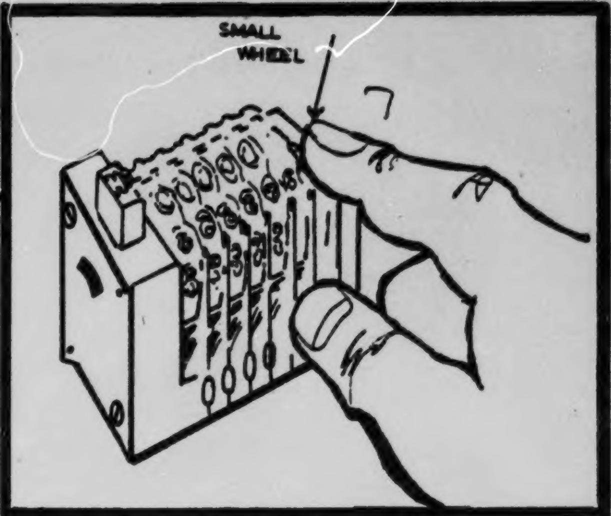


B. MOVE THE DIRECTION CONTROL TO BACKWARD (-) AND PUSH THE PLUNGER SEVERAL TIMES.

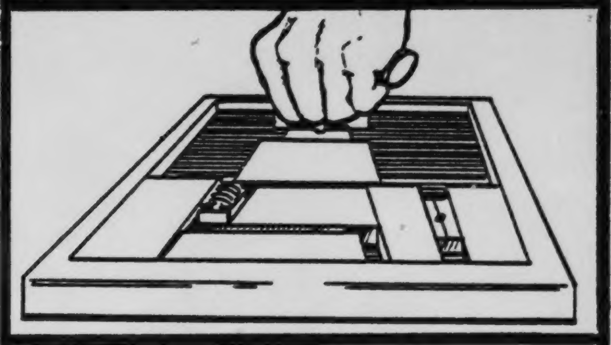
NOTE: IF YOU NUMBER BACKWARDS (99, 98, 97, 96, 95, ETC.), THE FIRST OR LOWEST NUMBER WILL BE ON TOP OF THE PRINTED PILE WHEN YOU ARE DONE.

JOB STEPS

7. TO DROP THE ZERO'S, TURN THE SMALL WHEEL ON THE END. THIS WILL DROP AS MANY OF THE ZERO'S AS YOU WANT (THE NUMBER WHEELS MUST HAVE THE ZERO IN THE UP OR PRINT POSITION TO DO THIS).



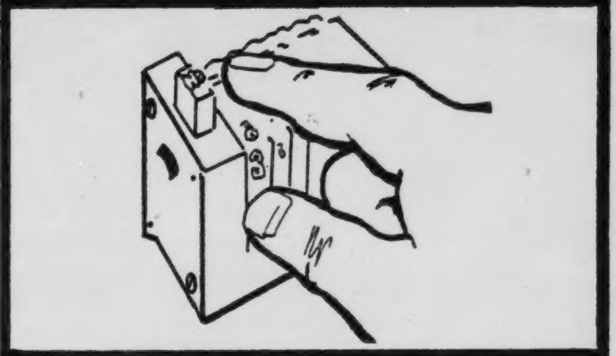
8. CLEAN OFF ALL THE SPECIAL OIL FROM THE MACHINE WITH A RAG AND LOCK THEM IN THE TYPE FORM. BE SURE THE FORM IS SOUND AND CHECK FOR LIFT.



9. INK UP THE PRESS, CHANGE PACKING AND DRESS THE PRESS FOR .040".

10. GET POSITION AND DO MAKEREADY. GET YOUR INSTRUCTOR'S APPROVAL BEFORE RUNNING.

11. NOW SET THE NUMBERING MACHINES TO YOUR STARTING NUMBER, 1 (YOU WANT TO NUMBER FORWARD FOR THIS JOB BECAUSE YOU WILL PERFORATE THEM ON A SECOND PASS THROUGH THE PRESS LATER).

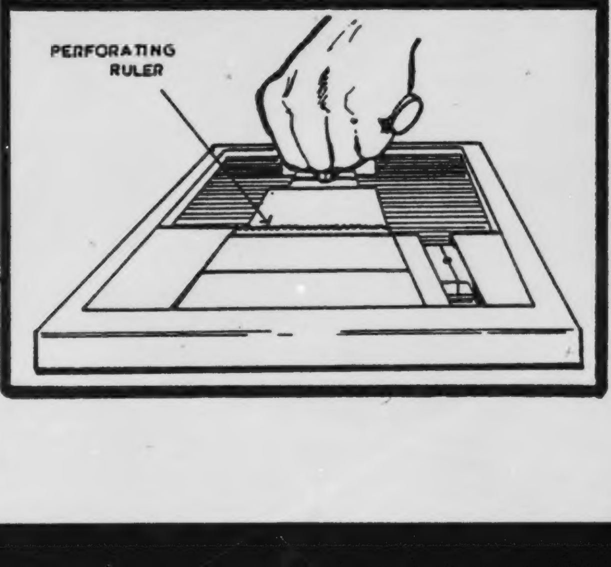


12. PRINT THE ENTIRE JOB.

NOTE: BE CAREFUL NOT TO MISPRINT BECAUSE IT MAY TAKE MANY MINUTES TO RE-SET BOTH MACHINES TO THE CORRECT NUMBER. WATCH BOTH NUMBERS VERY CLOSELY. THE PLUNGER MAY EMBOSS OR DENT THE PAPER WHEN PRINTING, BUT THIS IS OK.

13. WHEN DONE, REMOVE THE CHASE, CLEAN THE PRESS AND REMOVE THE TWO INK ROLLERS.

14. LOCK UP THE PERFORATING RULE IN A SECOND CHASE BEFORE YOU UNLOCK YOUR TYPE FORM. MEASURE IN FROM THE LEFT SIDE WHERE YOU WANT THE RULE TO PERFORATE, THEN LOCK IT UP IN THIS POSITION (ONE QUOIN ONLY).

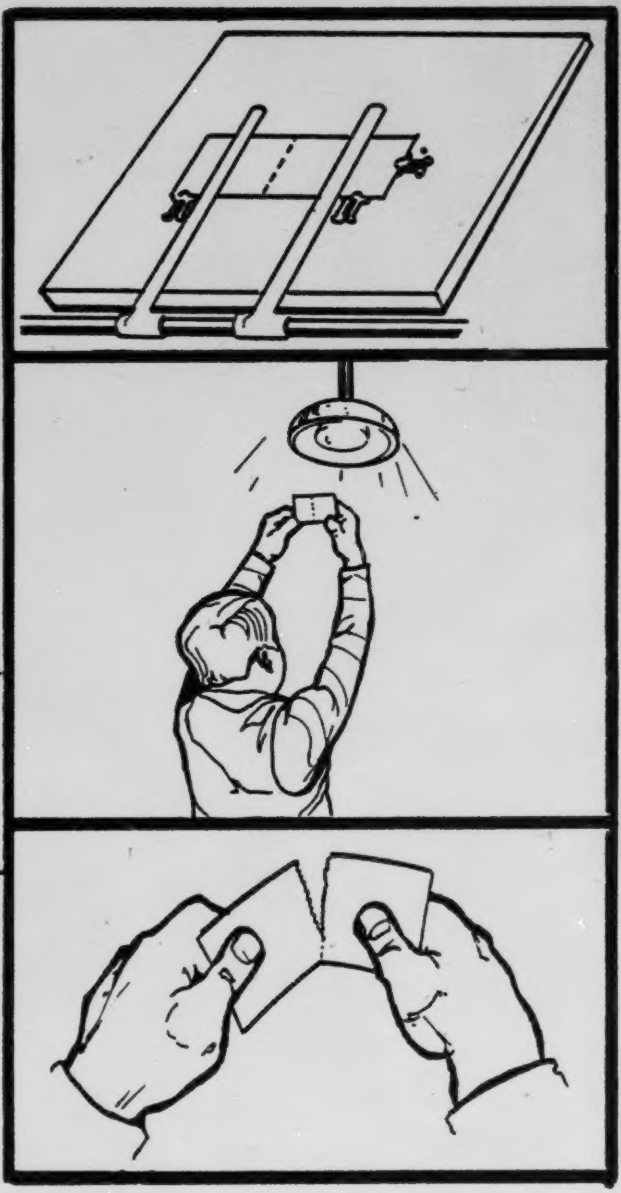


JOB STEPS

15. UNLOCK THE FORM, CLEAN THE TWO NUMBERING MACHINES WITH CARE AND THEN PUT THEM BACK IN THE SPECIAL CLEANING-STORAGE OIL IN THEIR BOX.

16. CLEAN AND DISTRIBUTE THE TYPE.

17. PLACE THE CHASE IN THE PRESS AND BE VERY CAREFUL THAT THE RULE DOES NOT HIT THE GAUGE PINS (NO ROLLERS IN PRESS).



18. MAKE A "PRINT" AND CHECK POSITION. YOU MAY HAVE TO MOVE THE GRIPPERS IN CLOSER TO THE PERFORATING RULE. WATCH OUT FOR THE GAUGE PINS AND USE EXTRA SCRAP CARDS TO GET POSITION AND CHECK PERFORATION.

19. TO CHECK PERFORATION:

A. HOLD THE CARD UP TO THE LIGHT TO SEE IF EACH CUT IS REALLY CUTTING ALL THE WAY THROUGH THE CARD.

B. FOLD THE CARD ONCE AND SEE IF IT TEARS EASILY. AS YOU ARE RUNNING, THE PACKING MAY WEAKEN AND CAUSE WEAK PERFORATION (SLIDE THE PACKING UNDER THE TYMPAN, OVER A LITTLE).

20. WITH CARE, PERFORATE YOUR WHOLE JOB.

21. WHEN DONE, UNLOCK THE CHASE AND PUT AWAY THE RULE, FURNITURE AND QUOIN. REPLACE THE PACKING (DON'T LOSE THE GAUGE PINS) AND THE ROLLERS.

22. HAVE YOUR INSTRUCTOR CHECK YOUR JOB.

23. HAVE YOUR INSTRUCTOR TEACH YOU ABOUT:

A. A CUTTING DIE
B. A TYPE-HIGH PUNCH
C. A SLITTING RULE
D. BRASS RULE
E. A SCORING RULE
F. AN EMBOSSING DIE

graphics

unit: PRESSWORK

capital area career center

1401 13 108
module: 1401 13 108 3 **date:** NOVEMBER 1977 **level:** II

skill title: OPERATING A 10 X 15 HEIDELBERG PLATEN PRESS

developed & written by: GLEN PETTIT

visuals by: MIKE SMITH

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO IDENTIFY THE MAJOR PARTS, TO INK-UP, TO SET-UP FOR COMMON SIZE PAPERS, TO PRINT AND HOW TO CLEAN THE 10 X 15 HEIDELBERG PLATEN PRESS.

IN ORDER TO DO THIS YOU WILL NEED:

10 X 15 HEIDELBERG PLATEN PRESS AND BASIC TOOLS
5 KINDS OF PAPERS (1,000 SHEETS EACH)
A TYPE FORM AND INK
RAGS, SOLVENT AND CLEANERS
INSTRUCTION BOOK

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN IDENTIFY THE 36 MAJOR PARTS AND CONTROLS.
2. YOU CAN RUN 1,000 EACH OF FIVE DIFFERENT KINDS AND SIZES OF PAPERS WITH NO MORE THAN ONE FEEDING ERROR PER 500 SHEETS.
3. YOU CAN INK-UP THE PRESS USING THE INK FOUNTAIN.
4. YOU CAN POSITION AN IMAGE IN THE EXACT CENTER OF A SHEET AND PRINT AT LEAST 1000 IMPRESSIONS WITHOUT MISFEEDS OR ERRORS.
5. YOU CAN CLEAN THE PRESS AND PROPERLY LUBRICATE IT.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

AS YOU LEARNED IN THE PLATEN PRESS MODULES THAT YOU COULD PRINT EXCELLENT QUALITY WORK BUT THAT IT TOOK A LOT OF TIME AND WAS SLOW. AN AUTOMATIC PLATEN PRESS WILL FEED AND DELIVER PAPER ITSELF AND CAN PRINT UP TO 5,000 IPH (IMPRESSIONS PER HOUR). THERE ARE SEVERAL BRANDS OF AUTOMATIC PLATEN PRESSES IN USE TODAY BUT THE MOST COMMON IS THE HEIDELBERG PLATEN PRESS. THE NAME PLATE ON THE HEIDELBERG HAS "SCHNELLPRESSENFABRIK AG HEIDELBERG" PRINTED; WHICH MEANS "FAST-PRESS-FACTORY AT HEIDELBERG, GERMANY". THEY HAVE MADE THIS SAME STYLE OF PRESS FOR OVER 75 YEARS AND THEY COME OFF AN ASSEMBLY LINE LIKE AUTOMOBILES, ONE EVERY 20 MINUTES.

THE COST OF OUR HEIDELBERG PLATEN PRESS IS ABOUT $9,000 (1977) AND INCLUDES EVERYTHING YOU WILL FIND IN TWO TOOL DRAWERS IN THE LAB. WE HAVE THE HEIDELBERG 10" X 15" (26 X 38 CM) SIZE. THERE IS ALSO A LARGER 13" X 18" (34 X 46 CM) SIZE.

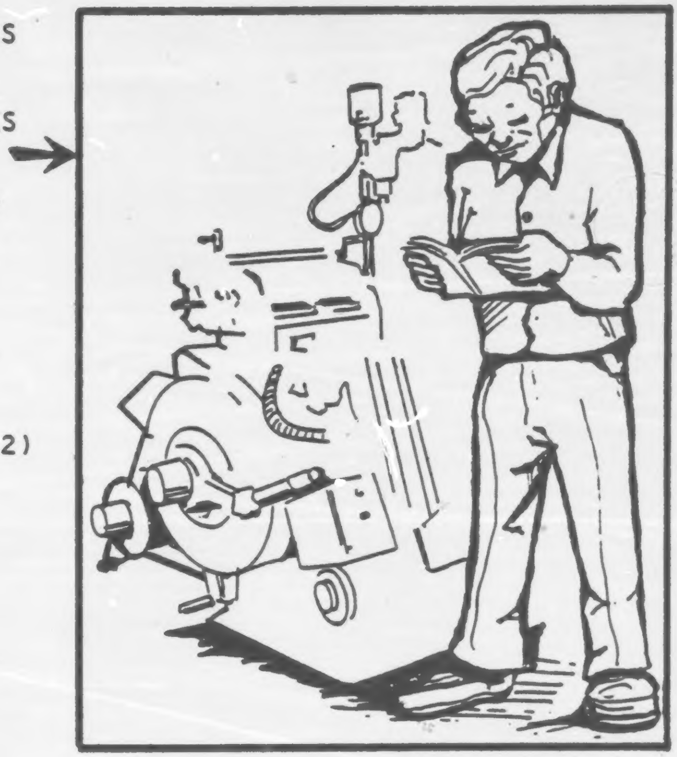
THE HEIDELBERG LOOKS DANGEROUS AND COMPLICATED BECAUSE ALMOST EVERYTHING IS EXPOSED. IT IS AN EXCEPTIONALLY WELL ENGINEERED MACHINE AND IS VERY EASY TO OPERATE. MOST OF THE OPERATIONS ARE THE SAME AS ON A LARGE OFFSET BUT YOU CAN EASILY SEE AND UNDERSTAND THE OPERATIONS ON THIS PRESS BECAUSE THEY ARE NOT COVERED UP.

JOB STEPS

1. YOU MUST HAVE COMPLETED ALL OF THE BASIC PLATEN PRESS MODULES (1401 13 101 - 1401 13 105) BEFORE STARTING THIS MODULE. HAVE YOUR INSTRUCTOR OR AN EXPERIENCED STUDENT GIVE YOU A VERY BRIEF DEMONSTRATION OF HOW THE HEIDELBERG OPERATES (WITHOUT FEEDING PAPER).

2. CHECK OUR AND READ THE CHPATER ON THE OPERATION OF THE "10 X 15 HEIDELBERG PLATEN PRESS" IN THE TEXT PLATEN PRESS OPERATION (PAGES 74 - 84).

3. LOCATE ALL 36 PARTS & CONTROLS USING THE TEXT AT THE HEIDELBERG PRESS. WHEN YOU ARE READY, YOUR INSTRUCTOR WILL GO OVER THIS LIST WITH YOU AND DISCUSS SAFETY ON THE HEIDELBERG PRESS:

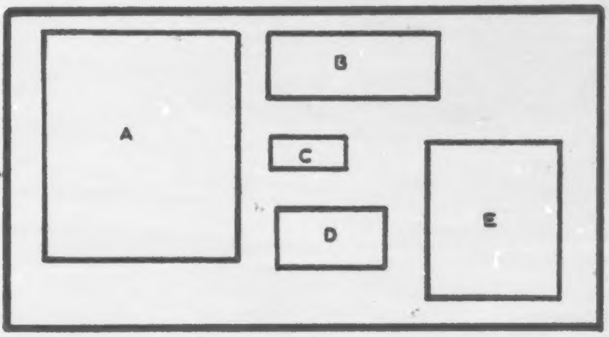


FEED TABLE
GRIPPERS
SUCKERS
PLATEN
CHASE
THROW-OFF LEVER
SUCTION TRIP
INK FOUNTAIN
SUCKER BAR SLIDE
SUCKER TILT
SIDE STOPS (8)
PILE HEIGHT CONTROL
DELIVERY TABLE CONTROL
SHEET SEPARATOR SPRINGS
AIR BLAST CONTROLS (3)
SLUDGE TROUGH
INK RUN-UP LEVER
HEIGHT CONTROL BAR
DELIVERY TABLE
FACE GUARD
CLUTCH LEVER
BED
FLYWHEEL
SPEED CONTROL
IMPRESSION CONTROL
AUTOMATIC STOP
CENTRAL OILER
CLAMP RODS
BACK STOPS
SLOW DOWN FINGER

-SPRAY GUN
-JOGGER
-WASH-UP
-TRACK RAISER
-CENTER DIVIDER (2)
-RUBBER SUCKERS

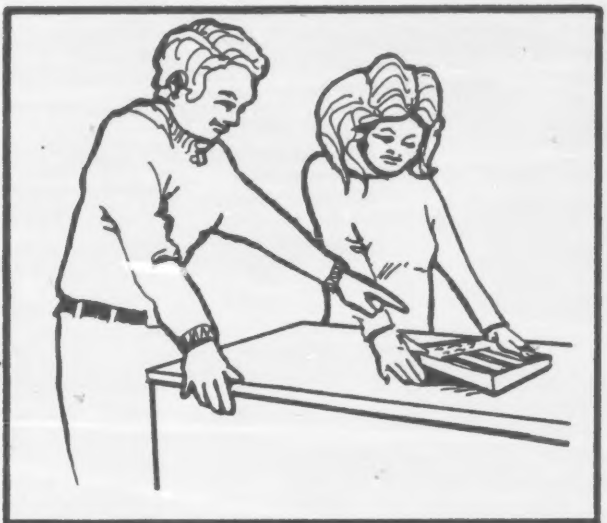
JOB STEPS

4. AFTER YOUR INSTRUCTOR HAS GONE OVER THE LIST WITH YOU AND DISCUSSED SAFETY, YOU ARE READY TO SET-UP AND RUN BLANK PAPER THROUGH THE PRESS. GET AT LEAST 1000 OF EACH OF THE FOLLOWING KINDS OF PAPER AND SET THE PRESS UP TO PROPERLY FEED AND DELIVER THEM:

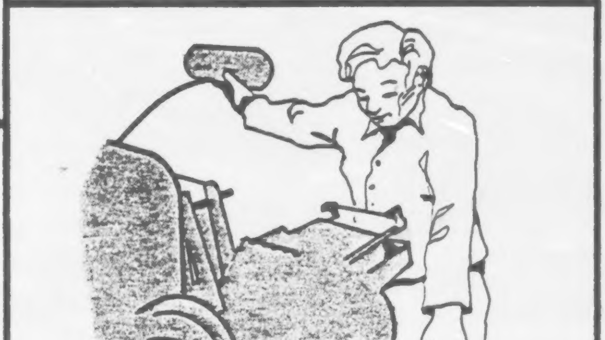


A. 8½" X 11" 20# BOND PAPER
B. STANDARD IBM CARDS
C. BUSINESS CARDS (OFF-CENTER FEED)
D. POST-CARD SIZE PAPER
E. 5½" X 8½" 20# BOND PAPER

PRACTICE UNTIL YOU CAN GET THE ENTIRE PILE OF EACH STOCK TO FEED PROPERLY, WITHOUT ANY DOUBLES, SKIPS OR DROPS. THE PILES SHOULD FEED CONSISTANTLY WITHOUT A MISS AND DELIVER INTO A NEAT UNIFORM PILE.



5. ASK YOUR INSTRUCTOR TO OBSERVE YOUR PRESS WHILE IT IS RUNNING. YOUR INSTRUCTOR WILL GIVE YOU YOUR TYPE FORM TO PRINT, HELP YOU LOCK IT UP IN THE CHASE, GET YOUR STOCK TO PRINT AND ASSIGN YOU A COLORED INK TO USE.



6. PRINT AT LEAST 1000 SHEETS WITH YOUR TYPE FORM. IT MAY BE NECESSARY TO RUN THE SAME STOCK THROUGH SEVERAL TIMES. WHEN FINISHED, YOU SHOULD HAVE A PILE OF 1,000 SHEETS WITH UNIFORM INK COVERAGE, IN REGISTER (POSITION) AND WITHOUT BLANKS OR SET-OFF (UNWANTED INK ON THE BACK OF THE PAPER).

7. CLEAN THE PRESS USING THE AUTOMATIC CLEAN-UP BLADE. EMPTY THE SLUDGE TROUGH, WIPE THE BLADE CLEAN, WIPE DOWN ALL ROLLERS, RAISE THE ROLLERS, CLEAN THE FLOOR AND AREA AND UNLOCK THE CHASE. HAVE YOUR INSTRUCTOR CHECK YOUR STOCK FOR QUALITY AND THAT THE PRESS AREA IS CLEAN.

graphics

unit: PRESSWORK

capital area career center

1401 13 109

module: 1401 13 109 3 date: NOVEMBER 1977 level: III

skill title: PRINTING A SOLID LONG RUN FORM ON THE

HEIDELBERG PLATEN PRESS

developed & written by: GLEN PETTIT

visuals by: MIKE SMITH

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO LOCK AND DO BASIC MAKEREADY FOR A LARGE SOLID AND THEN RUN THIS ON THE HEIDELBERG PLATEN PRESS.

IN ORDER TO DO THIS YOU WILL NEED:

10 X 15 HEIDELBERG PLATEN PRESS AND BASIC TOOLS
A LARGE SOLID TYPE FORM AND INK
RAGS, SOLVENT, CLEANERS
MAKEREADY TOOLS AND PAPER
STOCK

WE WILL KNOW YOU CAN DO IT WHEN:

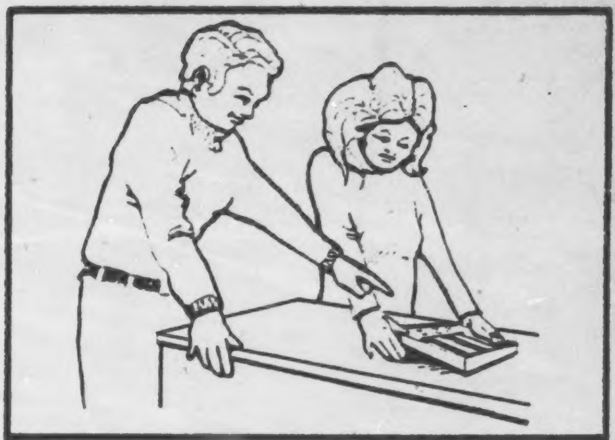
1. YOU CAN LOCK-UP AND DO PRESS MAKEREADY FOR A LARGE SOLID (25 SQUARE CM) ON THE HEIDELBERG PLATEN PRESS.
2. YOU CAN RUN THIS SOLID SO IT IS UNIFORM, CENTERED AND WITHOUT BLANKS, SET-OFF OR SMEARING ON AT LEAST 1,000 SHEETS OF PAPER.
3. YOU CAN CLEAN THE PRESS, PRESS AREA AND DISTRIBUTE THE FORM.

A TAPE OF THIS MODULE IS AVAILABLE.

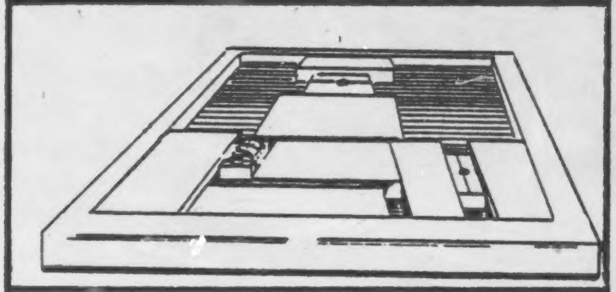
JOB STEPS

1. YOU HAVE COMPLETED MODULE 1401 13 108 "OPERATING A 10 X 15 HEIDELBERG PLATEN PRESS".

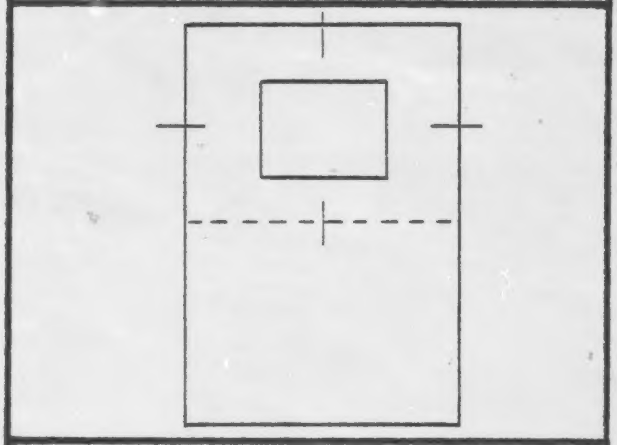
2. FOR THIS MODULE YOU WILL NEED 1,000 SHEETS OF 5½" X 8½" 20# BOND PLUS SCRAP PAPER FOR SET-UP. ASK YOUR INSTRUCTOR FOR THE STOCK AND THE FORM YOU WILL BE USING.



3. SET YOUR NAME, HOME SCHOOL AND TODAYS DATE IN 12 PT. TYPE AND LOCK THIS UP WITH YOUR SOLID FORM (YOU MAY BE ASKED TO INCLUDE A NUMBERING MACHINE TOO).

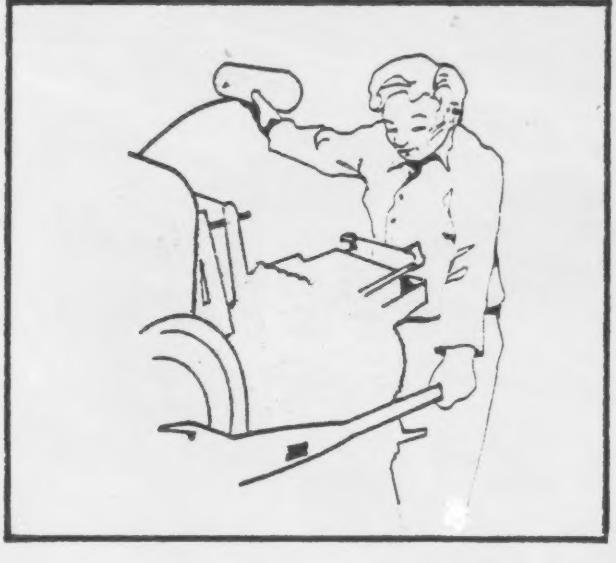


4. CENTER EXACTLY THIS SOLID FORM IN THE TOP HALF OF THE STOCK.



5. SET UP THE FEEDER AND DELIVERY TO BE SURE THE STOCK IS FEEDING PROPERLY. MORE THAN ONE SHEET WILL DAMAGE THE TYPE AND SMACH YOUR PACKING.

6. INK THE PRESS UP WITH A COLORED INK. CHANGE THE TYMPAN PAPER AND PACKING IF NECESSARY. REDUCE THE IMPRESSION.

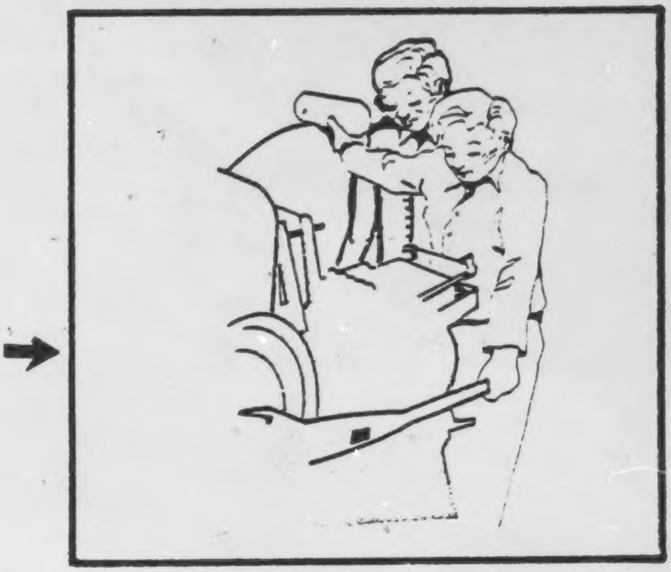


7. MAKE A PRINT ON A BLANK SHEET. CHECK THE IMAGE AREA CAREFULLY FOR ANY LOW SPOTS WHERE THE INK MAY BE LIGHT - THESE AREAS REQUIRE MAKEREADY. YOU MAY WANT TO RENIEW HOW TO DO MAKEREADY BY READING CHAPTER 6 IN THE TEXT "PLATEN PRESS OPERATION".

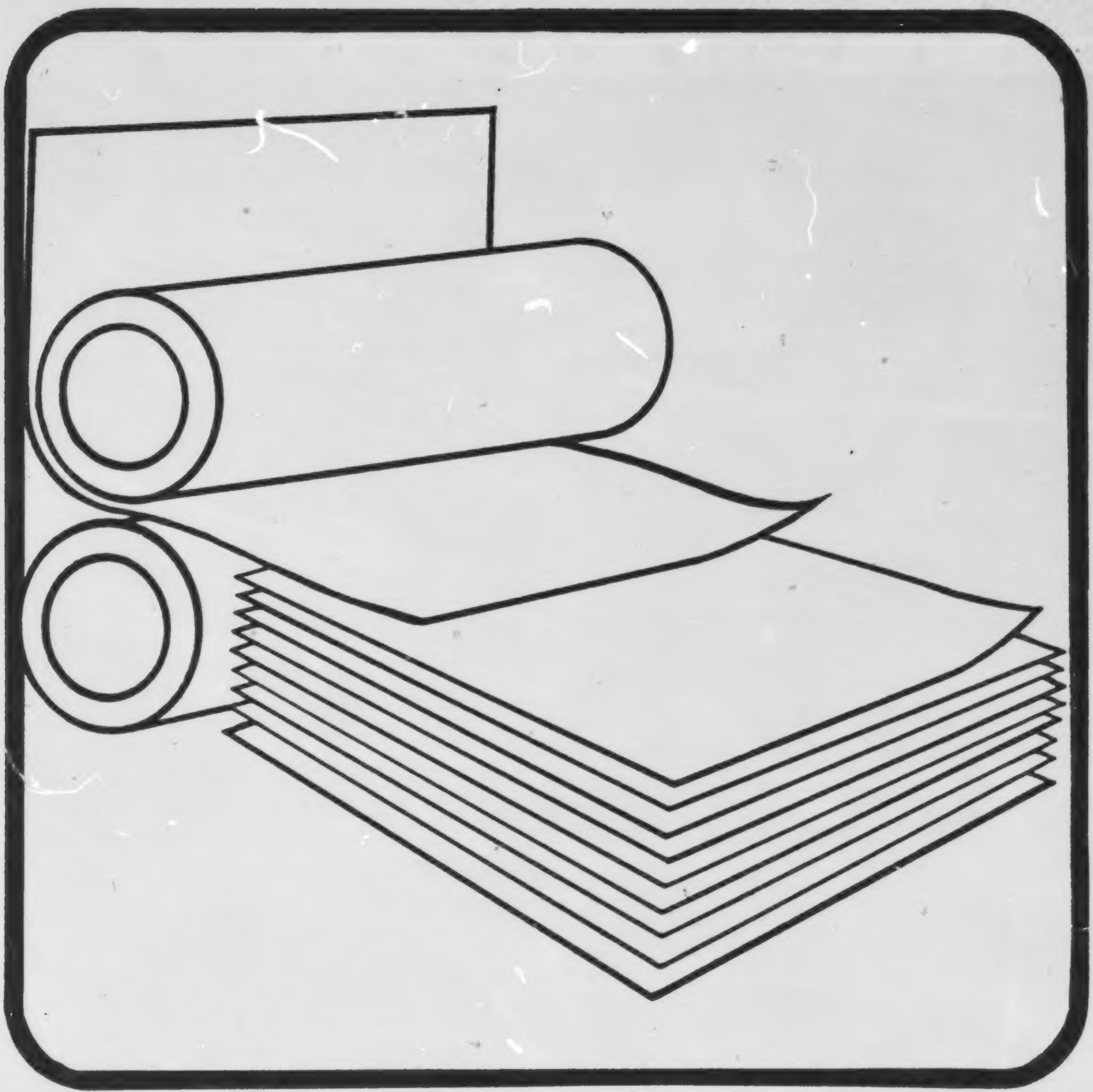
8. USE .001" TISSUE UNDER THE TYMPAN TO DO MAKEREADY WITH.

9. WHEN YOU HAVE A PERFECT PRINT, GET THE PRINT UP TO PROPER INKING ON THE IMAGE. NORMALLY, WITH A "SNUG" RUB, ONLY 1/2 CM OF INK SHOULD SMEAR, NO LESS - NO MORE. TOO MUCH INK WILL SET-OFF ON THE SHEET ABOVE IT AND TOO LITTLE WILL NOT BE SOLID. DO NOT USE THE SPRAY.

10. WHEN YOU HAVE PERFECT INKING, SET THE FOUNTAIN AND RUN ALL 1,000 SHEETS OF GOOD BLANK STOCK. HAVE YOUR INSTRUCTOR CHECK YOUR WORK (IT MAY BE NECESSARY TO RUN THIS SEVERAL TIMES TO LEARN HOW TO MAINTAIN UNIFORM INKING FROM START TO FINISH).



11. WHEN THE FIRST, MIDDLE AND LAST PRINTS ARE THE SAME UNIFORM INK THICKNESS, CLEAN YOUR PRESS, RETURN THE TYPE AND FORM AND CLEAN THE AREA.



graphics

unit: PRESSWORK

capital area career center

module: 1401 13 110
1401 13 110 3 date: NOVEMBER 1977 level: III

skill title: PRODUCTION WORK ON THE HEIDELBERG PLATEN PRESS

developed & written by: GLEN PETTIT

visuals by: MIKE SMITH

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO DO PRODUCTION WORK ON THE HEIDELBERG PLATEN PRESS AND MAINTAIN QUALITY.

IN ORDER TO DO THIS YOU WILL NEED:

10.15 HEIDELBERG PLATEN PRESS AND BASIC TOOLS

STOCK, INK AND SUPPLIES

JOB ENVELOPE WITH INSTRUCTIONS

THE TYPE FORM

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN FOLLOW THE JOB ENVELOPE INSTRUCTIONS, LOCK-UP THE FORM, SET-UP THE PRESS, GET POSITION, DO MAKEREADY, GET APPROVAL AND RUN A NORMAL PRODUCTION JOB MAINTAINING QUALITY, UNIFORM INKING, MINIMUM SPOILAGE AND WITHIN AN ACCEPTABLE TIME.

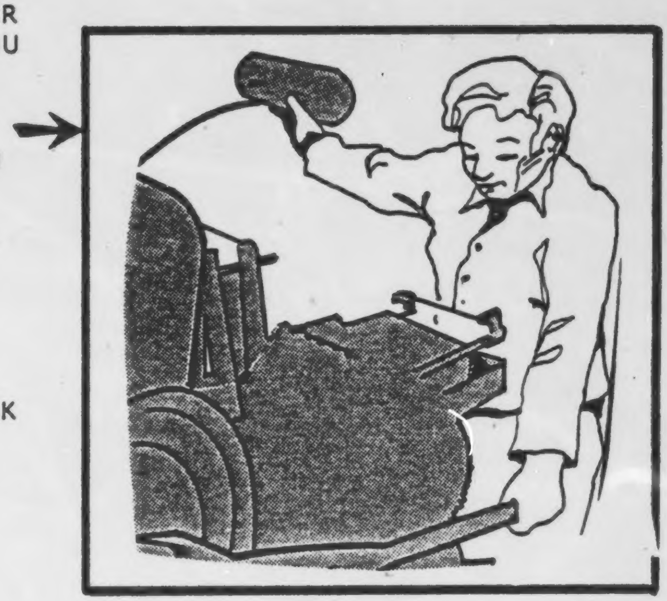
A TAPE OF THIS MODULE IS AVAILABLE.

JOB STEPS

1. YOU HAVE COMPLETED MODULE 1401 13 109 "PRINTING A SOLID LONG RUN FORM ON THE HEIDELBERG PLATEN PRESS".

2. YOUR INSTRUCTOR WILL ASSIGN A LINE PRODUCTION JOB TO YOU WITH A SPECIFIC DEADLINE. HE/SHE WILL ESTIMATE THE PREP (GETTING READY TO PRINT), PRODUCTION AND CLEAN-UP TIMES ON THE JOB ENVELOPE FOR YOU. ON A SEPARATE SHEET OF PAPER KEEP TRACK OF THE ACTUAL TIMES YOU SPEND ON EACH PART.

3. READ OVER THE JOB ENVELOPE, BE SURE YOU KNOW EXACTLY WHAT YOU ARE TO DO, THEN:



A. GET THE STOCK (ESTIMATE THE COUNT

B. GET YOUR TYPE FORM

C. LOCK-UP THE FORM IN POSITION

D. SET THE FEED & DELIVERY, CHECK FEEDING

E. INK UP THE PRESS

F. GET POSITION

G. DO NECESSARY MAKEREADY

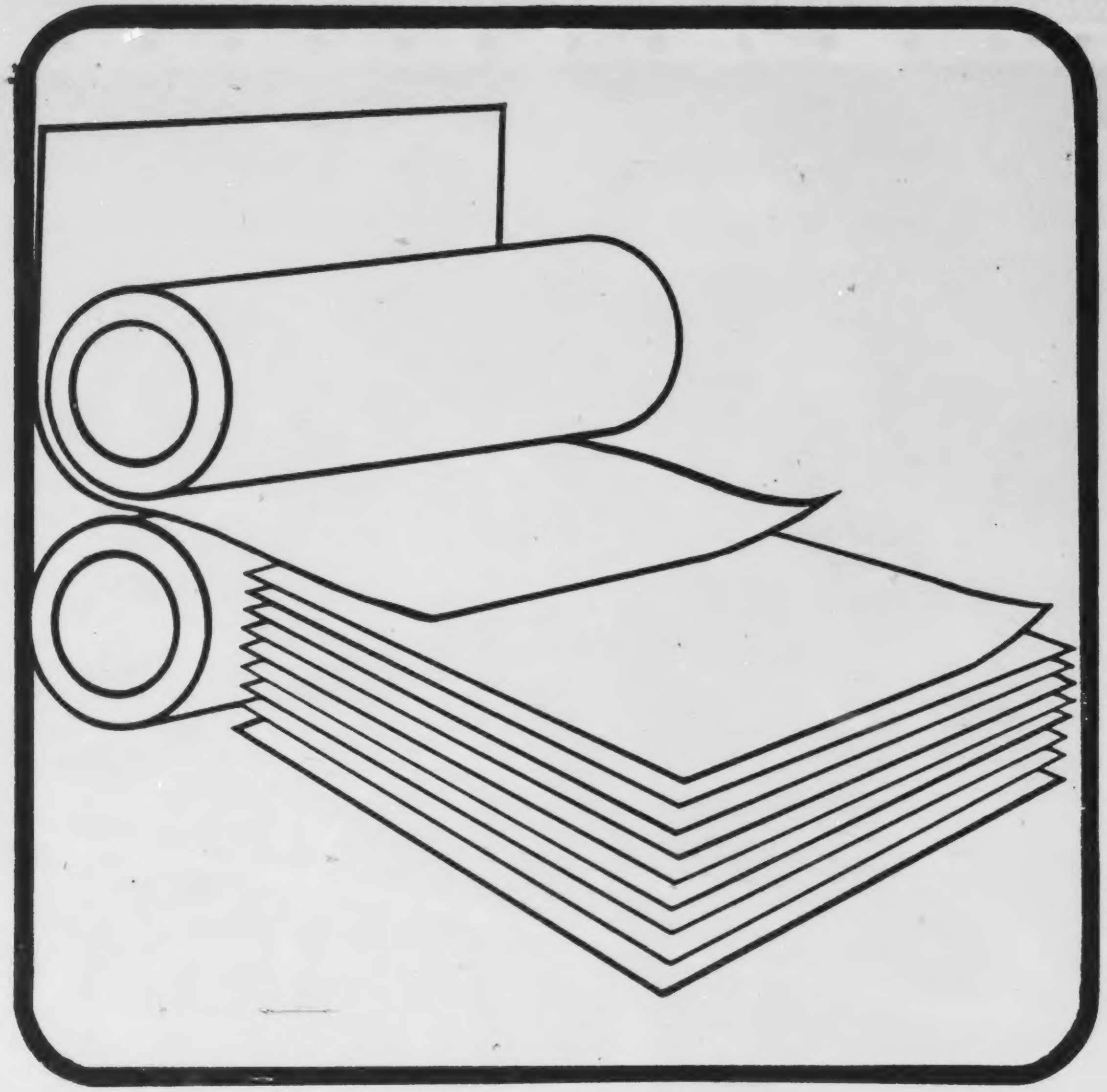
H. GET APPROVAL TO RUN

I. RUN (USE SPRAY IF NECESSARY)

J. INSPECT YOUR WORK INITIAL JOB ENVELOPE

K. RETURN FORM - SECURE AREA.

4. HAVE YOUR INSTRUCTOR EVALUATE YOUR JOB (BEFORE IT IS WRAPPED). COMPARE THE TIME ESTIMATE WITH YOUR ACTUAL TIMES. DISCUSS IF NECESSARY.



graphics

unit: PRESSWORK

capital area career center

module: 1401 13 201
1401 13 201 3 date: DECEMBER 1977 level: I

skill title: BASIC OFFSET TOOLS, CHEMICALS, EQUIPMENT
AND SAFETY RULES

developed & written by: GLEN PETTIT

visuals by: STEVE BRAMER

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO USE THE BASIC TOOLS AND CHEMICALS FOR OFFSET PRINTING AND THE BASIC SAFETY RULES AROUND THE PRESSROOM.

IN ORDER TO DO THIS YOU WILL NEED:

A FILM STRIP AND TAPE
DEFINITIONS OF TERMS
LIST, DESCRIPTION AND PICTURES OF TOOLS AND CHEMICALS
TEN BASIC SAFETY RULES

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU LEARN ALL COMMON PRESSROOM CHEMICALS AND HOW THEY ARE USED.
2. YOU LEARN THE TEN BASIC SAFETY RULES IN A PRESSROOM.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

FOR THIS MODULE YOU WILL SEE A FILMSTRIP AND THEN FIND 20 COMMON TOOLS OR CHEMICALS USED IN OFFSET PRINTING. ALL OF THESE TERMS MEAN THE SAME THING:

LITHOGRAPHY
OFFSET
PHOTO-OFFSET
OFFSET LITHOGRAPHY
PHOTO-OFFSET LITHOGRAPHY
PLANOGRAPHY

THEY ALL MEAN PRINTING FROM A FLAT SURFACE. "LITHO" MEANS STONE BECAUSE AT FIRST, THE PLATES WERE FLAT STONES ON WHICH AN ARTIST DREW. "GRAPHY" MEANS WRITING. "PLANO" MEANS FLAT. "OFFSET" MEANS TO MOVE THE IMAGE FROM THE PLATE TO A RUBBER BLANKET OR CYLINDER AND THEN TO THE PAPER. TODAY, ALMOST ALL PRINTING IS DONE EITHER WITH NEGATIVES OR PHOTO-MECHANICALLY.

SMALL PRESSES THAT PRINT 11" X 17" SHEETS OR SMALLER ARE USUALLY CALLED DUPLICATORS OR OFFSET DUPLICATORS. THE USE OF THE OFFSET IS BASED ON THE IDEA THAT OIL AND WATER DO NOT MIX.

ON A PLATE, SOME AREAS TAKE WATER EASILY, BUT THE OILY OR GREASY IMAGE AREA WILL NOT.

SAFETY:

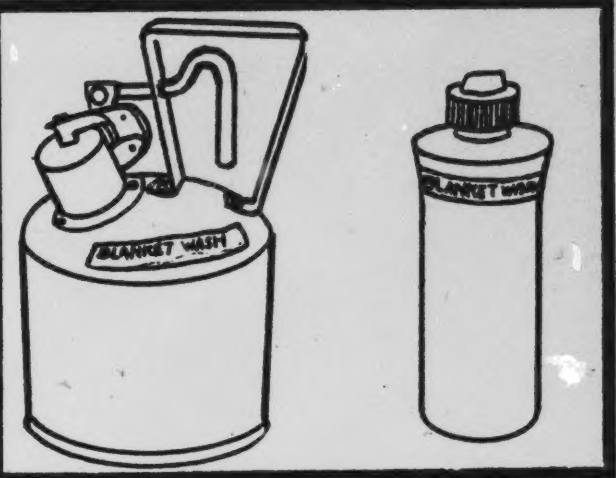
1. REMOVE JEWELRY, RINGS AND WATCHES BEFORE OPERATING A PRESS (PUT THEM IN YOUR PURSE OR POCKET).
2. ROLL UP OR TUCK IN SHIRT SLEEVES AND LOOSE SHIRT TAILS. WEAR AN APRON.
3. TUCK IN OR COVER LONG HAIR IN A NET.
4. KEEP ALL AREAS AROUND A PRESS CLEAN.
5. WIPE UP GREASE, OIL, INK, WATER OR SPILLED CHEMICALS IMMEDIATELY.
6. PICK UP SCRAP PAPER FROM THE FLOOR.
7. DO NOT OIL OR ADJUST THE PRESS WHILE IT IS WORKING.
8. KEEP GUARDS IN PLACE.
9. DO NOT REACH OVER OR INTO 'BLIND' SPOTS ON A PRESS.
10. BEFORE STARTING A PRESS, TELL OTHERS (SAY 'CLEAR' AND WAIT TWO SECONDS BEFORE TURNING ON THE PRESS).

JOB STEPS

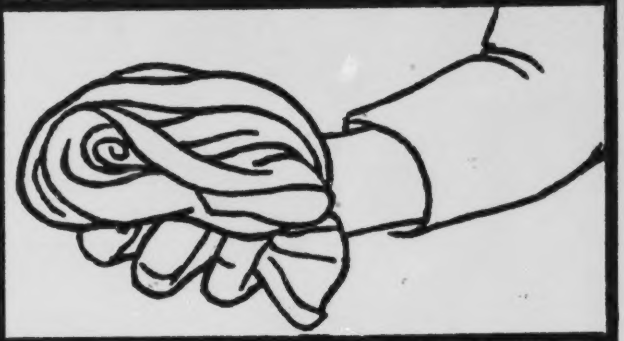
1. WATCH THE FILM STRIP/TAPE FOR THIS MODULE "BASIC FUNDAMENTALS OF PHOTO-OFFSET LITHOGRAPHY".

2. GO INTO THE LAB NEAR THE OFFSET PRESS AND FIND ALL THESE ITEMS SO YOU CAN LEARN TO USE THEM IN THE RIGHT WAY.

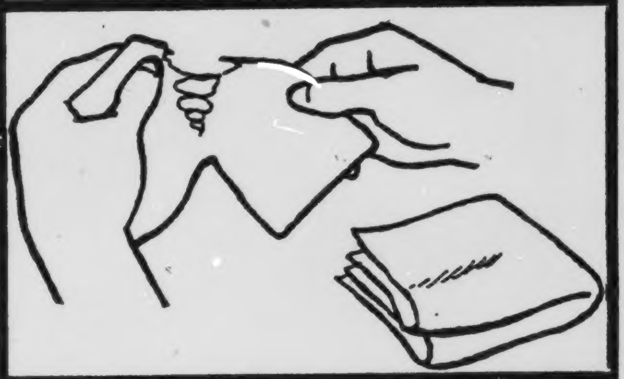
A. BLANKET WASH: WE FILL OUR RED ONE GALLON SAFETY CAN FROM A 55 GALLON DRUM, AND USE A SMALL 1/2 LITER SIZE PLASTIC BOTTLE AT THE PRESS.



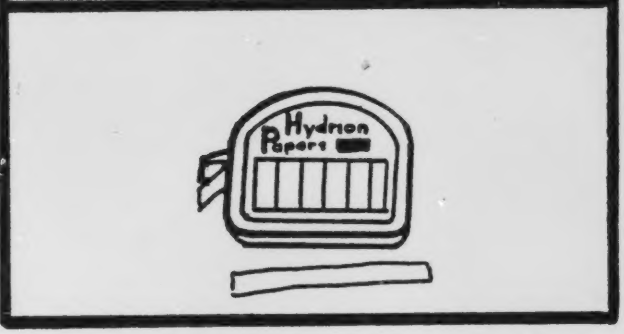
B. RAGS: USE SPECIAL LARGE PRINTER'S RAGS THAT ARE CLEANED SPECIAL EACH MONTH (8¢ EACH) AND THEY COST 50¢ EACH, IF LOST. THE BEST WAY TO CLEAN WITH A RAG IS WITH THE EDGES OUT. THESE ARE TWO RAG CANS, ONE FOR CLEAN RAGS AND ONE FOR DIRTY RAGS. NEVER LEAVE ANY RAGS OUT AFTER CLASS.



C. COTTON PADS: THE SMALL 10 X 10 CM COTTON PADS USED TO WIPE CHEMICALS ONTO A PLATE. BECAUSE THEY COST ABOUT 3¢ EACH (YOU MAY NEED 10 OR MORE PER DAY), ALWAYS TEAR THEM IN HALF AND FOLD THEM IN FOURTHS. TRY TO USE COTTON PADS WITH THE SAME CHEMICAL AGAIN AND AGAIN, AS MUCH AS YOU CAN DURING CLASS.

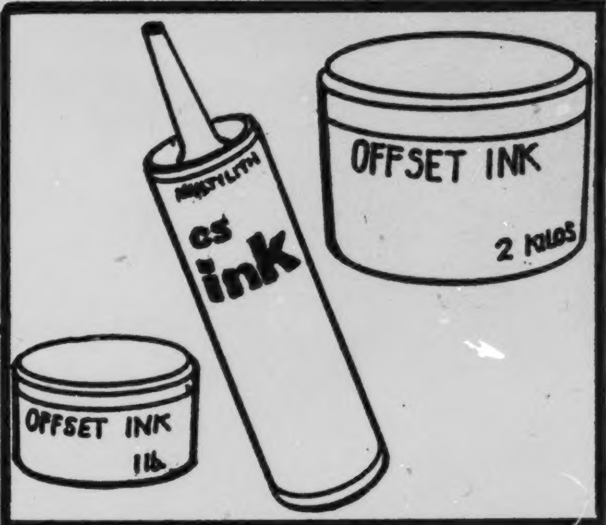


D. PH PAPER: THE SPECIAL LITMUS PAPER USED TO CHECK THE ACIDITY OF THE WATER USED ON THE OFFSET PRESS EVERY DAY. THE LITMUS PAPER IS DIPPED IN THE FOUNTAIN SOLUTION OF THE PRESS AND THE COLOR IS COMPARED WITH THE COLOR CHART.

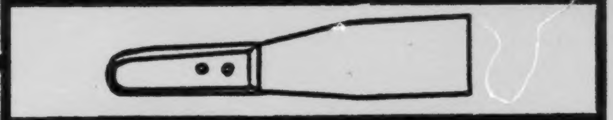


JOB STEPS

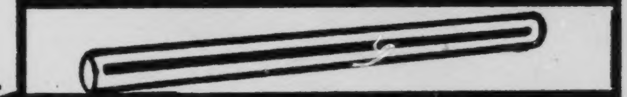
E. INK: INK IS BOUGHT THREE WAYS; IN CARTRIDGES, ONE POUND CANS AND 2 KILO (5#) CANS. COMMON COLORS ARE KEPT IN THE LARGER CANS. INK COSTS ABOUT $6 PER POUND (PRINTS 20,000 PAGES) AND WILL DRY OUT QUICKLY. WE USE MOSTLY RUBBER-BASE INK BECAUSE IT WILL WASH OUT OF CLOTHES EASILY AND CAN BE LEFT ON A PRESS SEVERAL DAYS. KEEP INK CANS CLEAN AND PUT THEM AWAY WHEN DONE (LOOK IN THE INK CABINET).



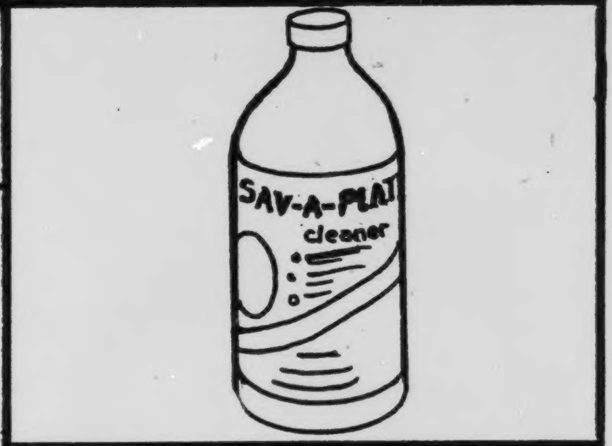
F. INK KNIVES - LIKE A PUTTY KNIFE. THESE ARE USED TO REMOVE INK FROM THE CAN AND TO STIR UP THE INK WHEN IT IS ON THE PRESS. MANY TIMES YOU MAY HAVE TO MIX DRIERS OR CHEMICALS TO THE INK BEFORE IT GOES ON THE PRESS.



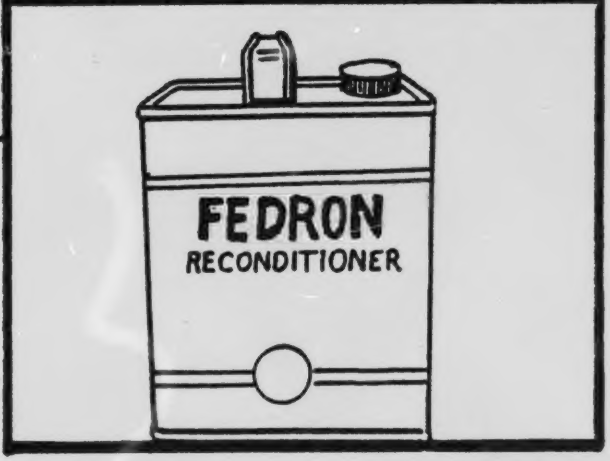
G. SNAKES-SLIP: THE SPECIAL HARD ERASER USED TO ERASE SCRATCHES AND DUST OFF A PLATE.



H. CLEANER-CONDITIONER OR PLATE SAVE: SPECIAL CLEANING CHEMICALS ARE USED TO CLEAN A DIRTY PLATE OR TO REMOVE INK FROM A PLATE. PLATE-SAVE IS A VERY STRONG CLEANER AND SHOULD NOT BE USED ON THE PLATE IMAGE OR IT MAY REMOVE IT. ALWAYS USE THE BLUE CLEANER-CONDITIONER TO CLEAN INK OFF OF A METAL PLATE, USING A 1/2 SIZE COTTON PAD.



I. FEDRON: A VERY STRONG ALCOHOL TYPE CLEANER. THIS SHOULD NEVER BE USED ON A PLATE OR RUBBER ROLLERS. USE FEDRON ONLY ON METAL AND TEFLON ROLLERS, INK KNIVES, THE INK FOUNTAIN AND METAL. DON'T TOUCH MUCH FEDRON TO YOUR HANDS BECAUSE IT REMOVES THE OILS FROM YOUR SKIN AND MAKES IT DRY.

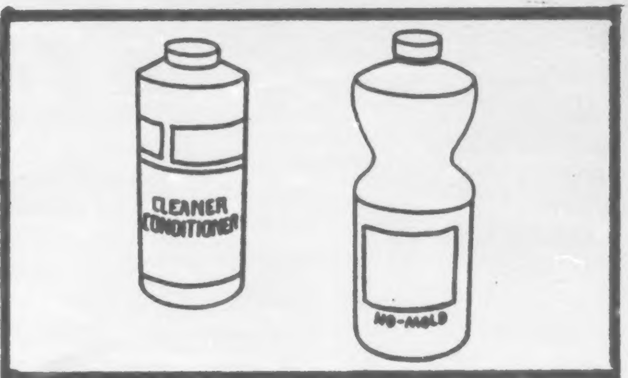


DISINFECTANT - GERM KILLER

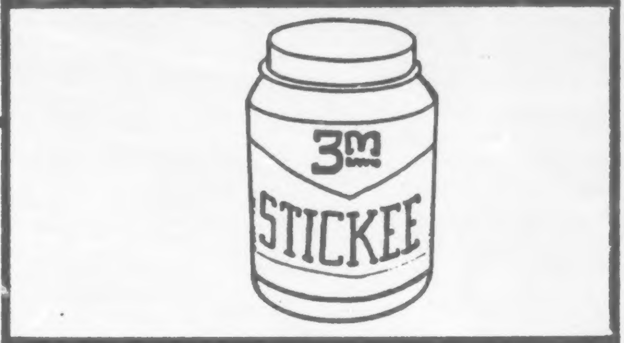
NEUTRALIZE - BALANCE, MAKE HARMLESS

J. CONDITIONER: THE ALKALI SOLUTION USED TO NEUTRALIZE THE PH OF THE FOUNTAIN SOLUTION.

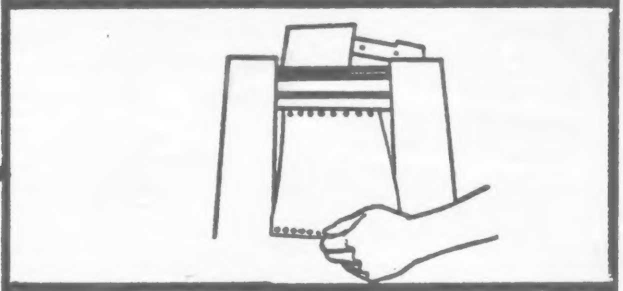
K. NO-MOLD: THE DISINFECTANT USED TO GET RID OF THE MOLD FORMING OVER NIGHT ON THE TOP OF THE FOUNTAIN SOLUTION.



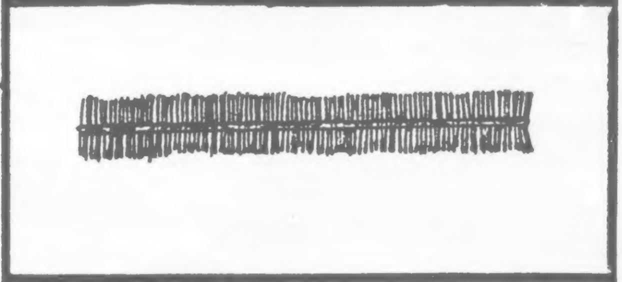
L. STICKIEE: THE GLUE USED TO HOLD DOWN A PAPER OR FOIL PLATE TO THE PLATE CYLINDER.



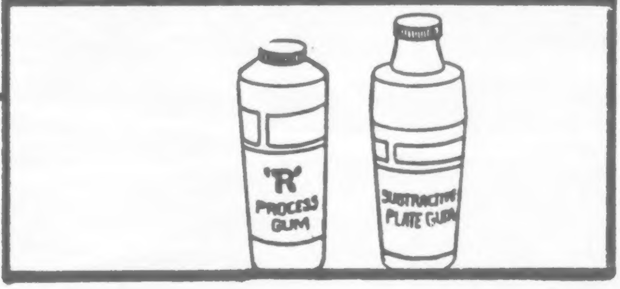
M. CLEAN-UP SHEET: THE SOFT, ABSORBENT PAPER PUT IN PLACE OF THE PLATE DURING CLEAN-UP TO SOAK UP THE INK.



N. STATIC TINSEL: FINE COPPER WIRE USED TO GROUND OUT THE STATIC ELECTRICITY CHARGE THAT THE PAPER PICKS UP WHEN PRINTING.

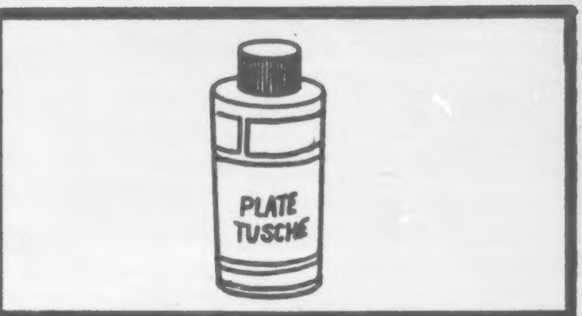


O. GUM: THE COATING USED TO KEEP THE METAL PLATE IN GOOD SHAPE IN STORAGE. BECAUSE A PLATE IS VERY EASILY SCRATCHED OR RUINED, IT MUST BE GUMMED WHEN LEFT FOR EVEN 15 MINUTES. BE SURE YOU USE THE RIGHT GUM FOR THE RIGHT PLATE (EITHER A PROCESS ADDITATIVE OR A SUBTRACTIVE GUM).

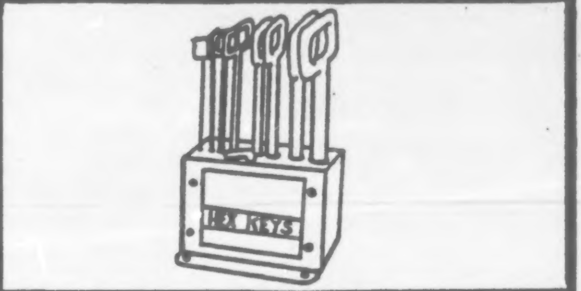


JOB STEPS

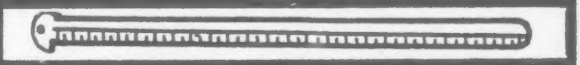
P. DELETION FLUID: THE VERY STRONG CHEMICAL USED TO FULLY REMOVE UNWANTED IMAGE FROM A METAL PLATE.



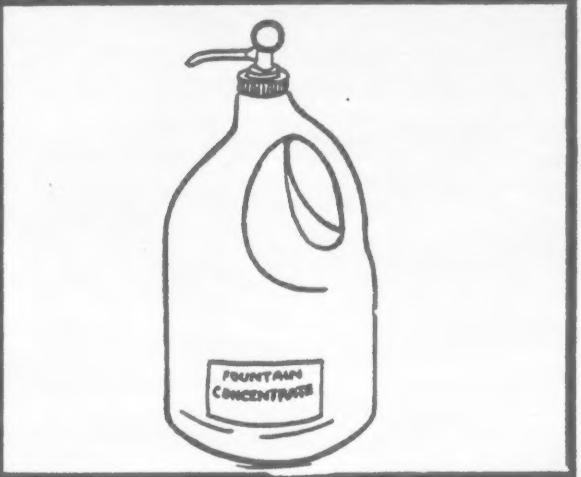
Q. ALLEN WRENCHES: SPECIAL SIX-SIDED WRENCHES USED FOR SMALL SCREWS ON THE PRESSES. LOOK OVER ALL THE TOOLS IN THE TOOL DRAWER AND BE SURE YOU KNOW ALL OF THEM.



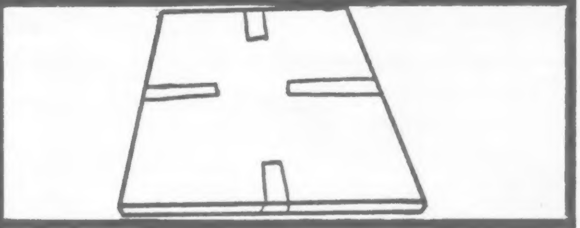
R. LINE GAUGE: THE PRINTER'S RULER WITH PICAS AND INCHES ON IT. THE HOOK AT ZERO ALLOWS YOU TO USE ONLY ONE HAND WHEN MEASURING.



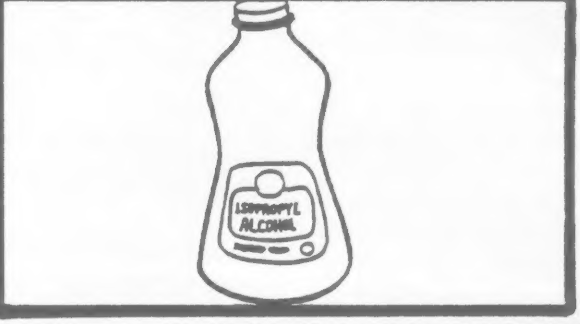
S. FOUNTAIN CONCENTRATE: THE CHEMICAL USED TO MAKE THE FOUNTAIN SOLUTION FOR THE OFFSET PRESSES. THIS IS MIXED AT A RATIO OF 1:15 (ONE PART CONCENTRATE PLUS 15 PARTS WATER). USUALLY, THERE ARE MEASURED MARKS ON YOUR PRESS WATER BOTTLES FOR MIXING THE RATIO.



T. PRESS BOARDS: WOOD OR A PAD OF CHIPBOARD USED ON THE BOTTOM OF A PILE OF PAPER IN THE FEEDER OF A PRESS.



U. ALCOHOL: THE LIQUID USED TO CUT DOWN THE CHANCE OF WATER AND INK MIXING (CALLED 'EMULSIFICATION').



graphics

unit: PRESSWORK

capital area career center

module: 1401 13 202
1401 13 202 3 date: FEBRUARY 1977 level: III

skill title: HOW TO OPERATE THE A.B. DICK 350 OFFSET DUPLICATOR

developed & written by: DWIGHT SMITH

visuals by: SANDRA STARNAMAN

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO OPERATE AN A.B. DICK 350 OFFSET PRESS

IN ORDER TO DO THIS YOU WILL NEED:

A.B. DICK 350 OFFSET PRESS
SELF-STUDY INSTRUCTION BOOK FOR THE OFFSET PRESS
PLATES, CHEMICALS AND INK
PAPER STOCK

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN OPERATE THE A.B. DICK 350 OFFSET PRESS.

2. YOU HAVE PRINTED 1,000 SHEETS TWICE WITH A REGISTRATION WITHIN 1 MM. (WITH 99% ACCURACY).

3. YOU HAVE INKED-UP, POSITIONED AND RUN 1,000 SHEETS
PRINTED TWICE. THE IMAGE IS IN THE CORRECT POSITION
A AND THE INKING IS EVEN THROUGHOUT THE PRESS RUN
(WITH 99% ACCURACY).

4. YOU HAVE REMOVED THE PLATE WHEN FINISHED, PRESERVED IT, AND CLEANED THE PRESS AND PRESS AREA TO YOUR INSTRUCTOR'S SATISFACTION.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

DUPLICATOR - SMALL MACHINE TO COPY SOME IMAGE MANY TIMES

OFFSET - PRINTING PROCESS USING OIL BASED INK AND WATER TO PRINT ONTO A CYLINDER AND THEN ONTO PAPER

INFORMATION

THE A.B. DICK OFFSET DUPLICATOR IS THE MOST POPULAR SMALL DUPLICATOR IN THE AREA. THERE IS A GOOD CHANCE YOU WILL NEED TO RUN ONE SOMEDAY.

THE MAXIMUM SHEET SIZE OF THE A.B. DICK 350 IS 10" X 15".

THE MAXIMUM SHEET SIZE OF THE A.B. DICK 360 IS 11" X 17".

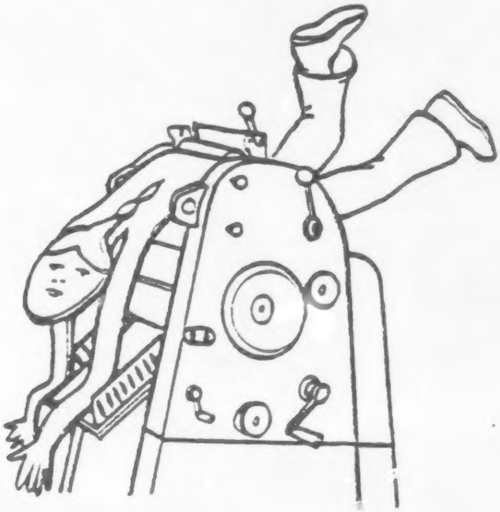
MAXIMUM SPEED OF BOTH PRESSES IS 9,000 COPIES PER HOUR.

EACH PRESS COSTS ABOUT $7,000 (1976).

SAFETY FIRST:

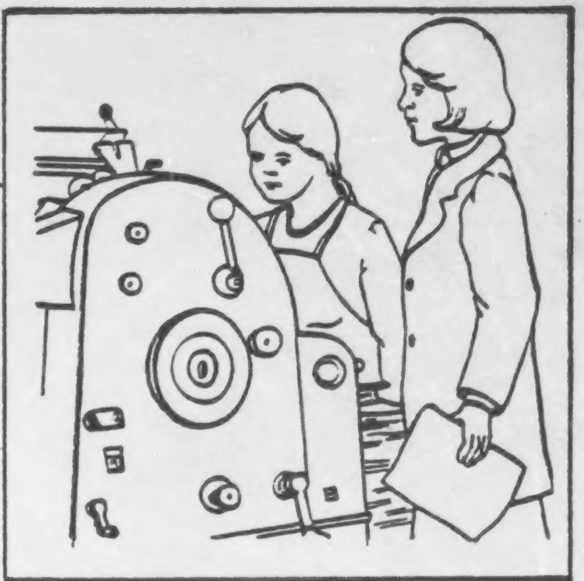
DO NOT BY-PASS OR OVER-RIDE ANY SAFETY FEATURES. DO NOT TALK WHILE RUNNING A PRESS; STOP AND WALK A FEW STEPS AWAY. DO NOT ATTEMPT TO CLEAR ANY PART OF THE PRESS WHILE IT IS RUNNING.

REMEMBER---ONLY YOU CAN PREVENT CARELESS INJURIES.



JOB STEPS

1. ASK YOUR INSTRUCTOR TO SHOW YOU THE MAIN FEATURES OF THE A.B. DICK 350 OFFSET PRESS. WATCH CAREFULLY HOW IT WORKS.



2. GET A COPY OF THE SELF-STUDY A.B. DICK 350 INSTRUCTION BOOK. READ THE BOOK COMPLETELY. YOU MIGHT WANT TO TAKE THE BOOK HOME TO STUDY IT CAREFULLY. THIS BOOK TELLS YOU ALL THE BASICS OF RUNNING THE PRESS.

3. AFTER YOU HAVE STUDIED THE INSTRUCTION BOOK CAREFULLY, LOOK OVER THE PRESS AGAIN.

4. TURN TO THE BACK OF THIS MOD AND TAKE THE WRITTEN QUIZ. WRITE YOUR ANSWERS ON A SEPARATE SHEET OF PAPER. TAKE THE EXAM TO YOUR INSTRUCTOR WHEN YOU ARE FINISHED.

5. YOUR INSTRUCTOR WILL QUIZ YOU ON THE MAJOR PARTS OF THE PRESS. BE ABLE TO SHOW YOUR INSTRUCTOR:

MAIN CYLINDERS
ALL THE DIFFERENT INK ROLLERS
FEEDER CONTROLS AND PARTS
COPY ADJUSTMENTS
DELIVERY ADJUSTMENTS
INK AND WATER SETTINGS
PLATE ATTACHMENT
MAIN CONTROL LEVER

WORD GUIDE

DRY RUN - TO RUN A PRESS WITH NO INK OR PLATE OR WATER

BOND - THE MOST COMMON KIND OF PAPER IN SCHOOLS AND OFFICES; IT IS HIGH IN RAG CONTENT

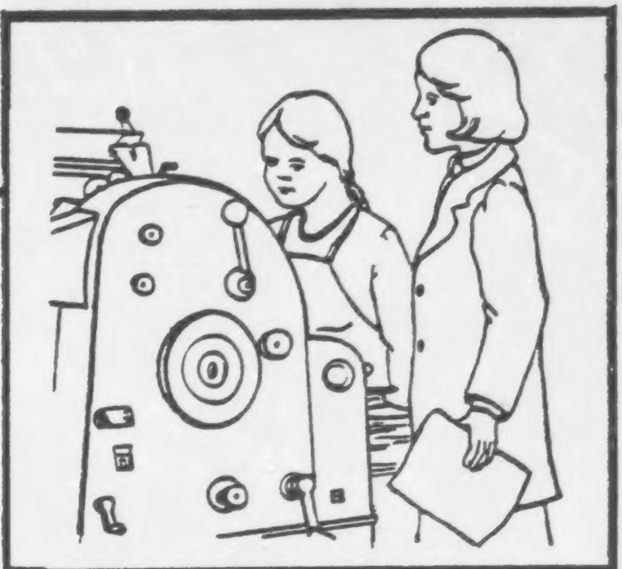
CENTERING LINE - THIN LINES WHICH PRINT AND SHOULD BE POSITIONED IN THE CENTER OF EACH SIDE. CHECK BY FOLDING THE PAPER IN HALF

JOB STEPS

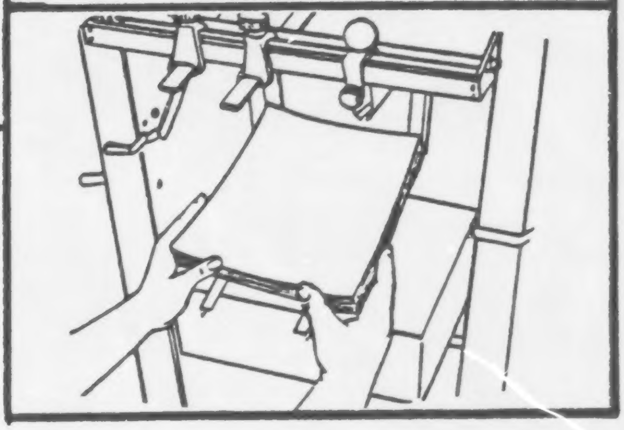
6. YOU WILL "DRY RUN" THE PRESS NOW. GET 1,000 (20 CM HIGH PILE) SHEETS OF EACH KIND OF PAPER LISTED BELOW:

A. 8 1/2" X 11" 20# BOND
B. 5 1/2" X 8 1/2" 20# BOND
C. 3" X 5" HEAVY CARD STOCK
D. IBM CARDS
E. 8 1/2" X 11" 20# BOND

7. SET UP THE PRESS TO RUN THE FIRST KIND OF STOCK. ASK YOUR INSTRUCTOR TO WATCH AS YOU START THE PRESS THE FIRST TIME.



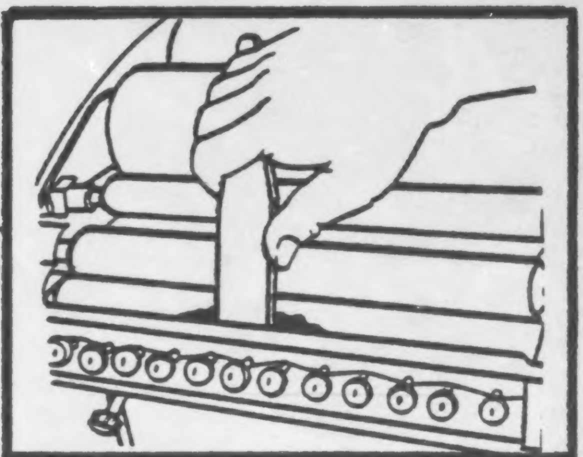
8. RUN EACH OF THE KINDS OF PAPER LISTED IN JOB STEP 6.



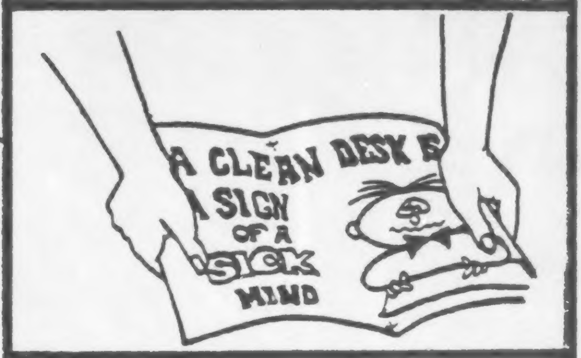
JOB STEPS

9. ASK YOUR INSTRUCTOR IF IT IS OK TO RUN THE PRESS WITH INK. IF IT IS, GET A ONE-COLOR PLATE FOR THIS MODULE.

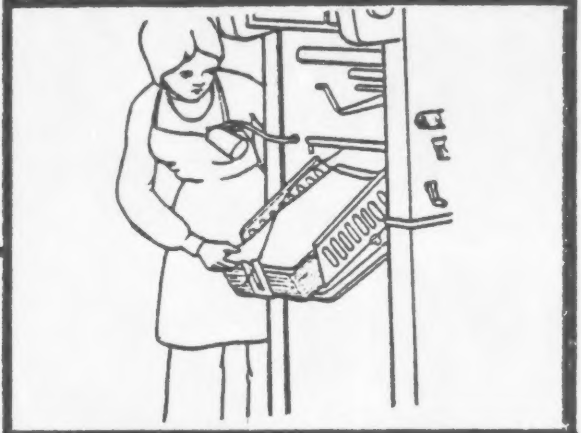
10. IF IT IS NOT INKED, INK UP THE PRESS WITH A COLOR OTHER THAN YELLOW.



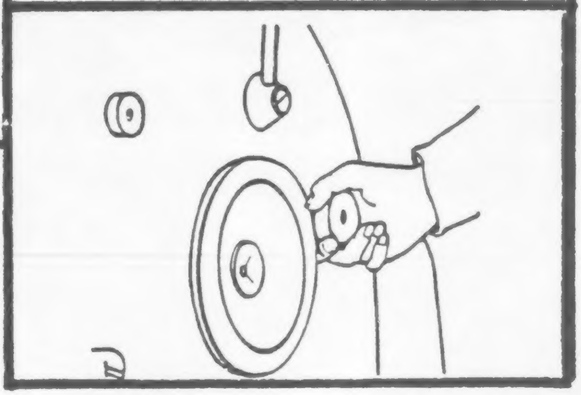
11. FOLLOW THE "CHECK LIST" IN THE BACK OF THE INSTRUCTION BOOK. CENTER THE IMAGE (CENTERING LINES) WITHIN 1 MM. SHOW YOUR INSTRUCTOR WHEN YOU ARE FINISHED.



12. WHEN YOUR INSTRUCTOR SAYS YOUR IMAGE IS CENTERED OK, PRINT 1,000 COPIES OF 20# BOND SCRAP PAPER. RUN THE PRESS AT A SLOW SPEED. CHECK EVERY 100 COPIES FOR EXACT CENTERING. CORRECT INK COVERAGE WHENEVER NEEDED.

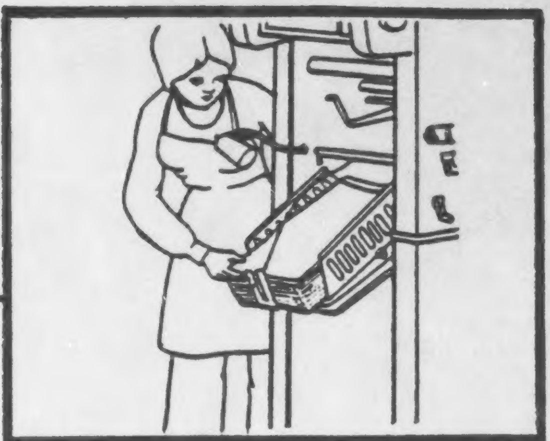


13. ASK YOUR INSTRUCTOR TO CHANGE THE PRESS FEED, DELIVERY AND PLATE ADJUSTMENTS.

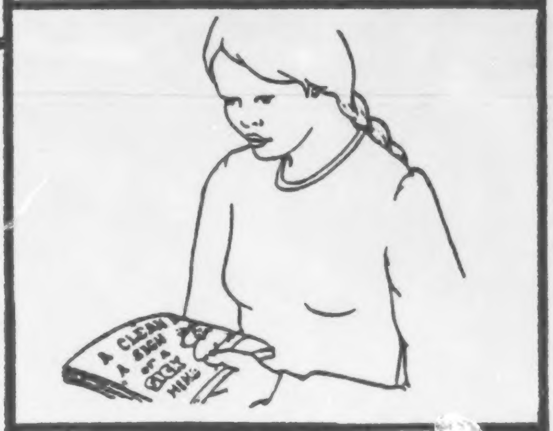


JOB STEPS

14. PRINT THE SAME PLATE AND THE SAME SIDE OF THE SAME PAPER YOU USED IN JOB STEP 12. PRINT IT EXACTLY ON TOP OF THE FIRST IMAGE. GUM THE PLATE WHEN YOU ARE FINISHED.



15. CHECK TEN DIFFERENT SHEETS FROM DIFFERENT PLACES IN THE PILE. LOOK FOR THE SECOND IMAGE TO BE ON TOP OF THE FIRST ONE. CHECK TEN MORE SEPARATE SHEETS.

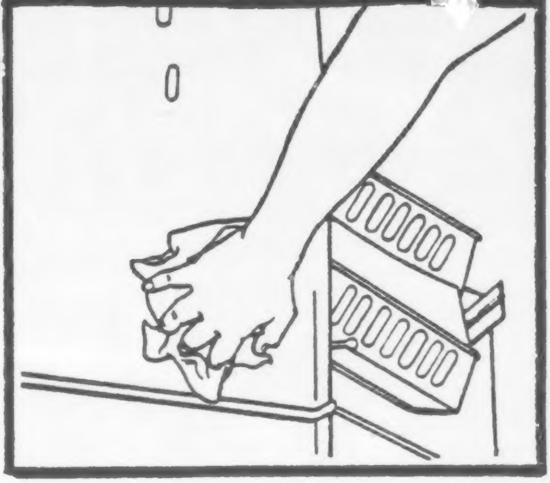


16. GET A SECOND ONE-COLOR PRACTICE PLATE.

17. REPEAT JOB STEPS 11, 12, 13, 14 AND 15. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK.

18. WHENEVER YOU ARE DONE RUNNING THE PRESS, CLEAN UP THE AREA FOR THE NEXT PERSON. BE SURE TO DO THE FOLLOWING:

A. CLEAN THE BLANKET, PLATE AND IMPRESSION CYLINDERS;



B. PICK UP ALL SCRAP PAPER ON THE FLOOR OR IN THE MACHINE;

C. CLEAN OFF THE OUTSIDE OF THE PRESS;

D. PUT AWAY ALL SUPPLIES AND EQUIPMENT;

E. CLEAN OFF ALL TABLE AND BENCH TOPS;

F. REFILL BLANKET WASH BOTTLE IF NEEDED.

YOU HAVE JUST RUN AN AB DICK 350 OFFSET PRESS. CONGRATULATIONS!

A.B. DICK 350 EXAM -- WRITE YOUR ANSWERS ON SCRAP PAPER

1. NAME THE THREE LARGE CYLINDERS ON AN A.B. DICK 350.

2. PAPER STARTS AT THE ______________ END AND COMES OUT AT THE ______________ END.

3. HOW MANY INK FORM ROLLERS ARE THER

4. HOW IS PAPER PICKED UP FROM THE FEEDER?

5. WHAT CONTROLS THE AMOUNT OF INK IN VARIOUS SPOTS ACROSS THE ROLLERS?

6. WHICH GOES ON TO THE PRESS FIRST, INK OR WATER?

7. WHAT HOLDS THE PAPER IN PLACE AS IT COMES OUT OF THE CYLINDERS INTO THE RECEIVING TRAY?

8. ANOTHER NAME FOR THE HEAD OR LEAD END OF THE PLATE IS THE _________________ EDGE.

9. ON WHICH CYLINDER DOES THE IMAGE APPEAR BACKWARDS AS YOU LOOK AT IT?

10. NAME THE 25 CONTROLS ON AN A.B. DICK 350 (GET A SHEET LIKE THAT ON THE NEXT PAGE FROM THE MOD PRACTICE SHEET DRAWER). WRITE THE NAMES OF THE CONTROLS ON THE BLANK LINES.

ANSWERS: (1) PLATE, BLANKET, IMPRESSION (2) FEEDER, RECEIVING
(3) 2 (4) SUCKER FEET (5) INK FOUNTAIN SCREWS (6) INK
(7) EJECTOR WHEELS (8) GRIPPER (9) BLANKET

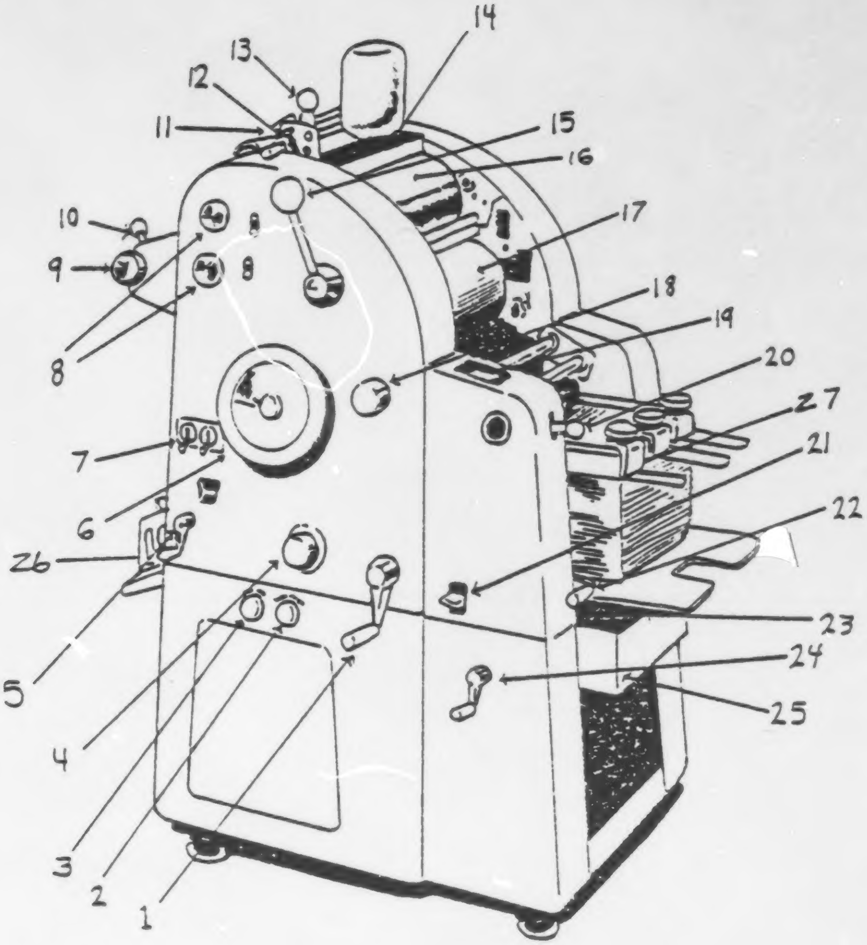
QUIZ

MATCH THE ITEMS ON THIS PAGE WITH THE PARTS NUMBERED ON THE ILLUSTRATION ON PAGE 10. DO NOT WRITE IN THIS MOD. CHECK ANSWERS ON BOTTOM OF THIS PAGE.

A. INK FOUNTAIN CONTROL
B. INK FOUNTAIN ROLLER KNOB
C. AQUAMATIC LOCK-OUT LATCH
D. AQUAMATIC CONTROL
E. RECEIVING END
F. AQUAMATIC NIGHT LATCH HANDLE
G. FOUNTAIN SOLUTION TROUGH
H. OPERATION CONTROL LEVER
I. MASTER CYLINDER
J. BLANKET CYLINDER
K. VERTICAL COPY ADJUSTING LOCK
L. COPY COUNTER
M. FEEDING END
N. PAPER FEED LEVER
O. PAPER STACK HEIGHT ADJUSTMENT
P. TABLE RELEASE
Q. PAPER GUIDE CRANK
R. PAPER SUPPORTS
S. FEED TABLE
T. PAPER ELEVATOR CRANK (PUSH IN TO ENGAGE)
U. VACUUM CONTROL
V. AIR CONTROL
W. BUCKLE CONTROL
X. SPEED CONTROL
Y. MOTOR DRIVE AND VACUUM PUMP SWITCHES
Z. HAND WHEEL
AA. FORM ROLLER CONTROL LEVER

ANSWERS:

A. 10 B. 9 C. 11 D. 12 E. 26 F. 13 G. 14 H. 15 I. 16 J. 17
K. 18 L. 19 M. 27 N. 20 O. 22 P. 21 Q. 24 R. 23 S. 25 T. 1
U. 2 V. 3 W. 4 X. 5 Y. 7 Z. 6 AA. 8



graphics

unit: PRESSWORK

capital area career center

1401 13 203

module: 1401 13 203 3 **date:** FEBRUARY 1977 **level:** II

skill title: HOW TO RUN AND HOLD TIGHT REGISTRATION ON THE A.B. DICK OFFSET DUPLICATOR

developed & written by: DWIGHT SMITH AND GLEN PETTIT

visuals by: SANDRA STARNAMAN

WORD GUIDE

TONING - GREY SCUM ON WHAT SHOULD BE A NON-PRINTING AREA.

REGISTRATION - LINING UP THE IMAGE EXACTLY WHERE IT IS SUPPOSED TO BE.

REGISTER MARKS - THIN MARKS PRINTERS USE TO KEEP THE IMAGE ON POSITION. THEY ARE CHECKED EVERY FEW MINUTES.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO RUN AND HOLD TIGHT REGISTRATION ON THE A. B. DICK OFFSET DUPLICATOR.

AND IN ORDER TO DO THIS YOU WILL NEED:

PLATES FOR A TIGHT REGISTRATION JOB

OFFSET DUPLICATOR

PAPER AND CHEMICALS

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU HAVE RUN 1,000 COPIES OF A TIGHT REGISTRATION JOB THROUGH THE OFFSET TWICE WITHIN 40 MINUTES.
2. THE REGISTER MARKS ARE ALIGNED ON ALL 1,000 COPIES WITHIN 1 MM TOLERANCE.
3. THE COPIES ARE NOT BLURRED, HAVE NO TONING, AND THE INKING IS UNIFORM.

A TAPE OF THIS MODULE IS AVAILABLE.

LINE WORK - A DRAWING OR LETTERING, NO PHOTOGRAPHS.

HALFTONE - THE SMALL DOTS USED TO PRINT GRAY AREAS, LIKE IN PHOTOGRAPHS. OFFSET PRESSES PRINT ONLY BLACK OR WHITE, AND THE SMALL DOTS LOOK LIKE GRAY TO THE HUMAN EYE.

SOLID - A LARGE, FULLY PRINTED AREA OF INK. REQUIRES LOTS OF INK AND CAREFUL ATTENTION AT THE PRESS.

INFORMATION

THERE ARE THREE MAIN TYPES OF PRINTING:

CLASS A - SIMPLE LINE WORK, ONE COLOR, SHORT RUN PLATES. MOSTLY, ELECTROSTATIC MASTERS ARE USED. CLASS A WORK IS ALSO CALLED Q & D (QUICK AND DRY). IT MAY BE PRINTED FOR OUT OF POSITION, PERHAPS HAVE TONING AND IS VERY CHEAP.

CLASS B - LINE AND HALFTONE WORK, SIMPLE TWO COLOR JOBS WITH SMALL SOLID AREAS, BUT NO HEAVY INKING. CLASS B WORK IS FOUND VERY COMMONLY. THE WORK WILL BE PROPERLY POSITIONED, THE REGISTRATION WILL BE WITHIN TOLERANCES, AND THE INK IS DENSE AND UNIFORM OVER THE ENTIRE SHEET.

CLASS C - CLASS C WORK HAS THE CLOSEST TOLERANCE REGISTRATION (WITHIN 1/2 MM), INVOLVES THE PRINTING OF 3 OR 4 COLORS, IS DONE ON EXPENSIVE PAPER, AND COSTS THE MOST. DONE IN LARGER PRINT SHOPS, ON LARGER PRESSES, FOR LONGER RUNS.

HERE AT THE CAREER CENTER, YOU WILL ALWAYS TRY FOR CLASS C WORK. YOU, AS PRESS PERSON, ARE RESPONSIBLE FOR CHECKING QUALITY WORK ON EVERY SHEET.

MOST STUDENTS WILL BE STARTING IN A SHOP THAT EXPECTS CLASS B WORK OR BETTER. BETTER QUALITY PRINT SHIPS WILL ONLY ALLOW CLASS C WORK. THE LOW QUALITY CLASS A WORK IS MOSTLY IN SMALL PART-TIME PRINTING DEPARTMENTS. THE EMPLOYEE WHO DOES CLASS A WORK IS THE LOWEST PAID.

DON'T FORGET TO ALLOW 5% MORE SHEETS OF PAPER THAN FINSIHED IMPRESSIONS YOU NEED. FOR EXAMPLE, IF YOU NEED 100, THEN MAKE 105; IF YOU NEED 1,000, MAKE 1,050. THIS ALLOWS FOR SOME SPOILAGE IN PRINTING.

USE AS FEW SHEETS AS POSSIBLE TO GET POSITION. CHECK ALL THREE POSTIONS WITH ONE SHEET.

INFORMATION

THIS MOD WILL GIVE YOU PRACTICE WITH TIGHT REGISTRATION. YOU WILL LEARN HOW TO GET POSITION AND RUN THE JOB IN AS SHORT A PERIOD OF TIME AS POSSIBLE. BELOW ARE SOME OF THE TRADE STANDARDS FOR THE AMOUNTS OF TIME FOR THE JOB TASKS IN THIS MODULE.

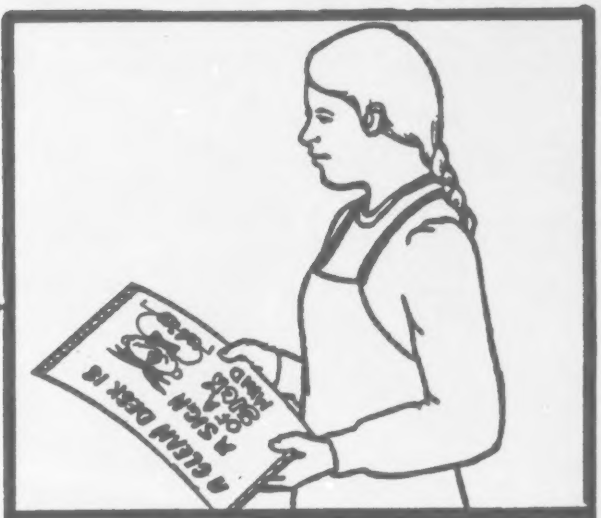
PREPARE PRESS AND LOAD STOCK	3 MINUTES
ATTACH PLATE AND POSITION IMAGE	7 MINUTES
RUN 1,000 COPIES	10 MINUTES
ATTACH SECOND PLATE, POSITION, LOAD STOCK	5 MINUTES
RUN 1,000 COPIES	10 MINUTES
CLEAN AND GUM PLATES	5 MINUTES
	40 MINUTES

IF YOU DON'T HAVE ANY MAJOR PROBLEMS, A TYPICAL REGISTRATION JOB AS IN THIS MOD SHOULD ONLY TAKE 2/3 HOURS (40 MINUTES). TRY TO AIM FOR THIS STANDARD.

JOB STEPS

1. GET THE TWO PLATES FOR THIS MOD FROM THE FLAT STORAGE DRAWER. THE PLATES HAVE THE NUMBER OF THIS MODULE ON THEM.

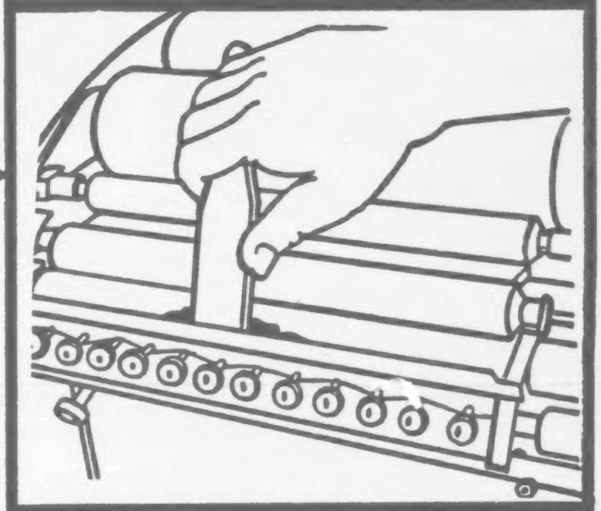
2. CHECK THE PLATES FOR PROPER GUMMING. IF THERE ARE BUBBLES OR OPEN AREAS, SHOW THEM TO YOUR INSTRUCTOR.



3. TAKE THE CHECKED PLATES TO THE PRESS AREA.

4. IF THE PRESS IS CLEAN, INK IT WITH ANY SOLID COLOR EXCEPT YELLOW.

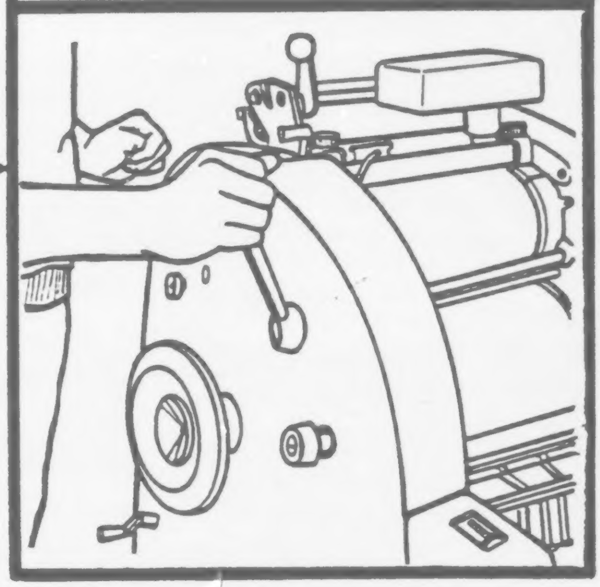
5. ATTACH THE FIRST PLATE TO THE PRESS. ETCH THE PLATE PROPERLY.



6. CHECK THE INK ROLLER PRESSURE:

A. TURN OFF THE WATER ROLLER.

B. DROP THE INK ROLLER ONTO THE TOP EDGE OF THE PLATE, ON A PRINTING AREA.

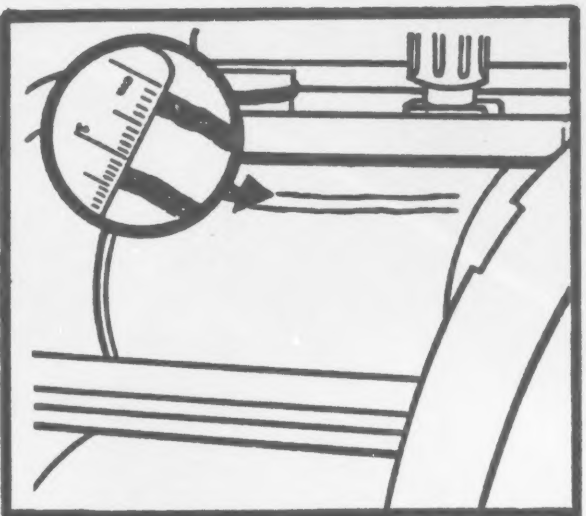


JOB STEPS

C. DO NOT TURN THE MOTOR ON. WAIT 15 SECONDS.

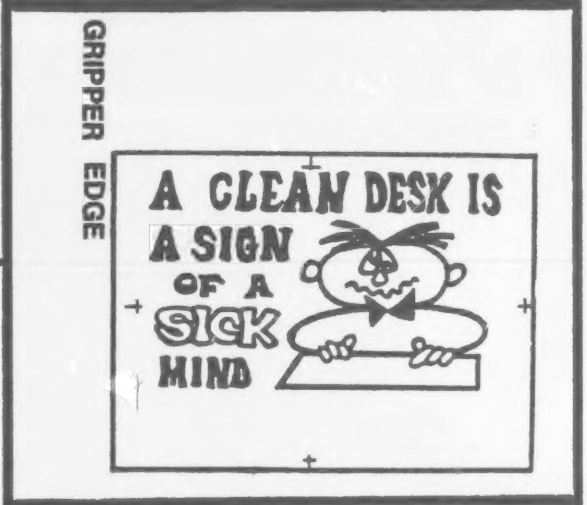
D. LIFT THE INK ROLLERS WITH THE CONTROL LEVER.

E. CORRECT INK ROLLER PRESSURE WILL LEAVE TWO LINES (BEADS) OF INK ACROSS THE PLATE. THE LINES SHOULD BE 3 MM (1/8") WIDE. IF THE LINES ARE DIFFERENT, ADJUST THE ROLLER PRESSURE (REFER TO YOUR INSTRUCTION BOOK).

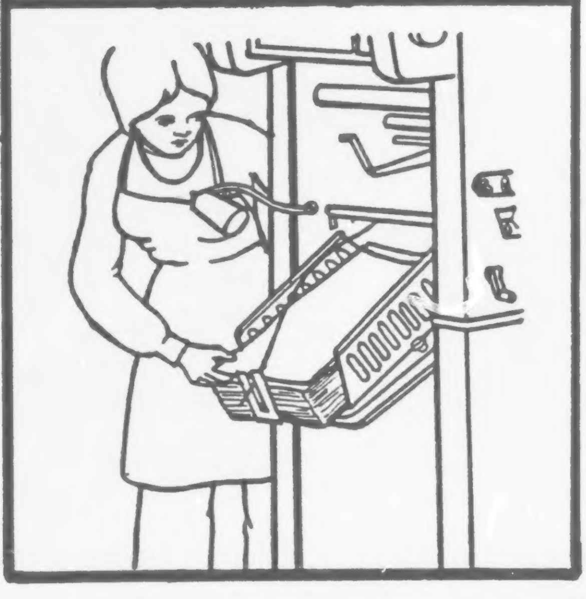


7. ASK YOUR INSTRUCTOR FOR SOME STOCK ABOUT 5 1/2" X 8 1/2". YOU WILL NEED 1,050 SHEETS FOR THE FIRST PAIR OF PLATES, AND ABOUT 1,010 FOR THE SECOND PAIR OF PLATES.

8. GET THE PRESS SET AND READY TO RUN. SET THE POSITION OF THE IMAGE SO THE 3 CENTER LINES GO OFF THE SHEET (BLEED). THE TOP CENTER LINE WILL BE 6 MM SHORT OF THE EDGE BECAUSE OF THE GRIPPERS HOLDING THE SHEET TO THE IMPRESSION CYLINDER.


GRIPPER EDGE
A CLEAN DESK IS A SIGN OF A SICK MIND

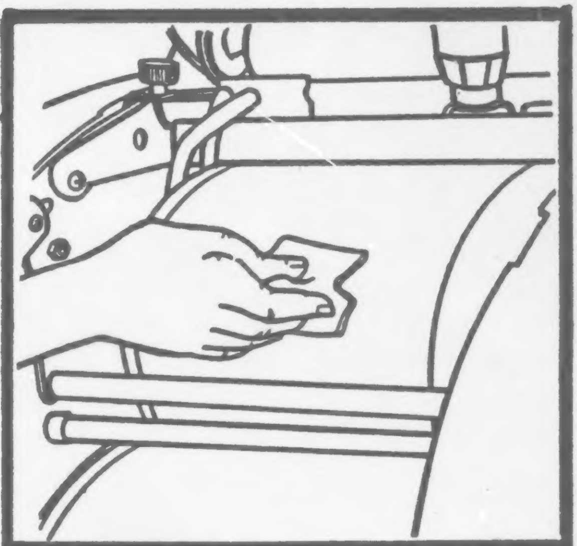
9. WHEN THE IMAGE IS CENTERED, RUN 1,000 COPIES.



JOB STEPS

10. CLEAN-CONDITION AND GUM THE PLATE ON THE PRESS.

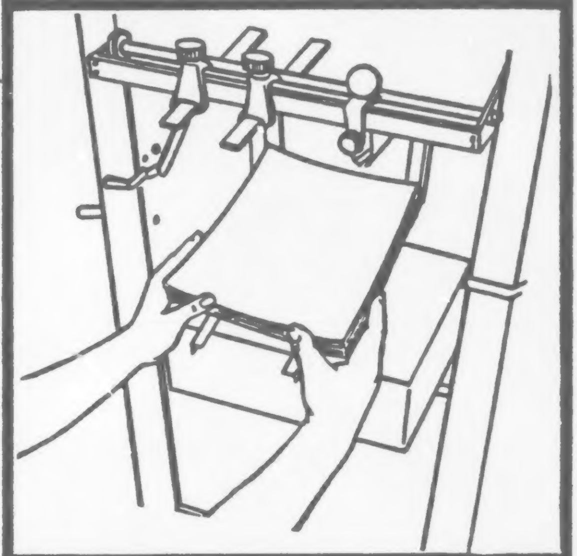
11. ATTACH THE SECOND PLATE TO THE PRESS.



12. RELOAD THE STOCK YOU JUST RAN.

13. CENTER THE REGISTER MARKS EXACTLY ON TOP OF THE FIRST RUN REGISTER MARKS.

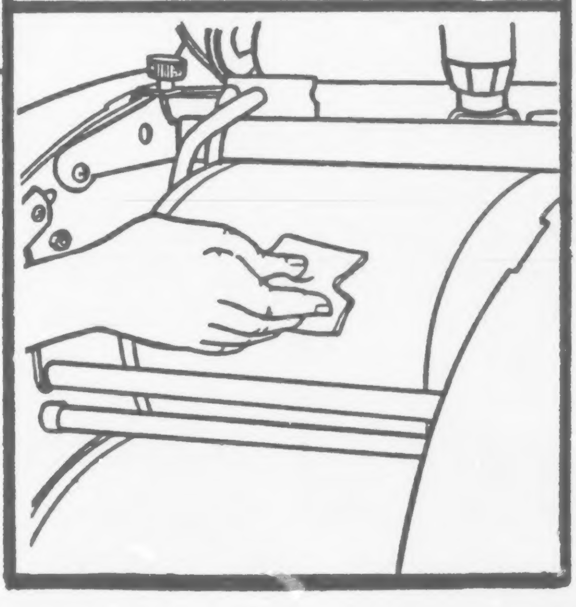
14. PRINT THE STOCK. CHECK THE REGISTER AND INK COVERAGE EVERY 100 COPIES.



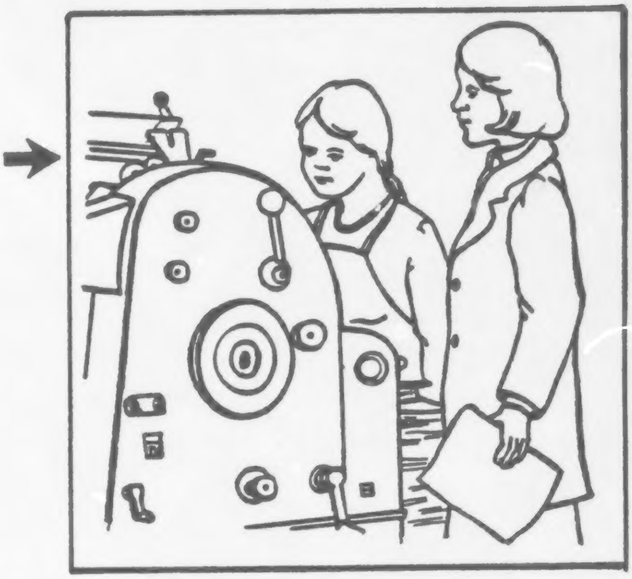
15. CLEAN-CONDITION AND GUM THE SECOND PLATE.

16. INSPECT THE WORK FOR QUALITY. YOU SHOULD NOT HAVE ANY TONING IN THE BACKGROUND. THE INK SHOULD BE EVEN THROUGHOUT THE ENTIRE PRESS RUN.

17. YOU CAN RUN ANOTHER PAIR OF PLATES IF YOU WANT MORE EXPERIENCE. USE THE BACK OF THE STOCK YOU JUST PRINTED AND A DIFFERENT PAIR OF PLATES. REPEAT THE JOB STEPS 8 - 16.



JOB STEPS



18. ASK YOUR INSTRUCTOR TO CHECK YOUR STARTING TIME. RUN THE SAME STOCK AND PLATES. YOU NEED TO RUN THE 1,000 SHEETS TWICE IN LESS THAN 1/2 HOUR. DO JOB STEPS 9-15.

19. CLEAN ALL THE EQUIMENT YOU USED. PUT AWAY ALL THE SUPPLIES YOU USED.

20. YOU NOW KNOW HOW TO RUN AND HOLD RIGHT REGISTRATION ON THE A. B. DICK DUPLICATOR.

graphics

unit: PRESSWORK

capital area career center

1401 13 204
module: 1401 13 204 3 date: APRIL 1977 level: III

skill title: HOW TO RUN BASIC PRODUCTION WORK ON THE A.B. DICK OFFSET DUPLICATOR

developed & written by: DWIGHT SMITH AND GLEN PETTIT

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO RUN BASIC PRODUCTION WORK ON THE A. B. DICK OFFSET DUPLICATOR.

AND IN ORDER TO DO THIS YOU WILL NEED:

6 DIFFERENT PRODUCTION JOBS WITH JOB ENVELOPES

PAPER AND PRINTING PLATES

OFFSET PRESS

CHEMICALS

WE WILL KNOW YOU CAN DO IT WHEN:

1. THE JOBS MEET THE CUSTOMER REQUIREMENTS LISTED ON THE JOB ENVELOPES
2. YOU FOLLOW THE INSTRUCTIONS ON THE JOB ENVELOPES AND RECORD THE INFORMATION REQUIRED.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

IMPRESSIONS - PRINTED IMAGES.

INFORMATION

IN ORDER TO BE A USEFUL PRESS OPERATOR, YOU MUST BE ABLE TO MEET DEADLINES.

HELPFUL HINTS:

1. SAVE 3 COPIES OF EVERY JOB YOU PRINT. THESE WILL BE USEFUL WHEN YOU ARE LOOKING FOR A JOB. ON ONE, LIST THE JOB NUMBER, THE DATE, THE NUMBER OF IMPRESSIONS AND THE AMOUNT OF TIME YOU SPENT ON THE JOB.

2. ON THE JOB ENVELOPE, WRITE:

    A. YOUR INITIALS.
    B. THE DATE YOU PRINTED THE JOB.
    C. ACTUAL NUMBER OF PERFECT COPIES.

3. PUT 2 COPIES OF THE FINISHED JOB INTO THE JOB ENVELOPE.

4. YOU CAN HELP REDUCE WASTE AS A PRINTER. HERE'S HOW:

    A. FOR SET-UP, RUN AT SLOW SPEEDS.
    B. RUN ONE SHEET AT A TIME.
    C. CHECK FOR ALL THREE POSITIONAL ADJUSTMENTS AT THE SAME TIME.

NOTE:

1. THIS IS A PRODUCTION MOD. FIRST, DO MODS 1401 12 201 3, 1401 12 202 3 AND 1401 12 203 3.

2. THIS MOD CAN TAKE MORE THAN ONE WEEK. BE SURE TO COMPLETE 6 DIFFERENT JOBS.

3. YOUR INSTRUCTOR WILL NOTE HOW LONG YOU TOOK FOR EACH JOB, HOW WELL YOU DID IT, AND HOW WELL YOU CLEANED UP.

4. IN A PRINT SHOP, THE KINDS OF JOBS CHANGE FROM WEEK TO WEEK.

5. YOU CAN RUN LETTERHEADS, CARDS, CARBONLESS FORMS, ENVELOPES AND FLYERS.

WORD GUIDE

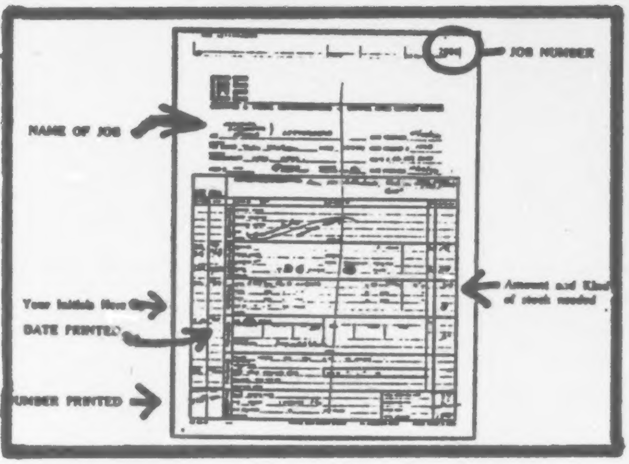
COMMENT - STATEMENT OR REMARK.

JOB STEPS

1. GET YOUR FIRST PRODUCTION JOB.

2. WRITE YOUR INITIALS AND THE DATE ON THE JOB ENVELOPE.

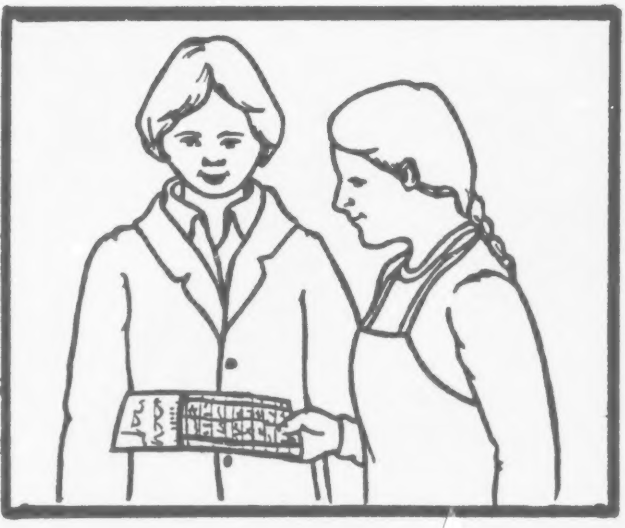
3. FOLLOW THE INSTRUCTIONS ON THE JOB ENVELOPE. DO YOUR BEST WORK.


JOB NUMBER
NAME OF JOB
Amount and Kind of stock needed
Your Initials Here
DATE PRINTED
UMBER PRINTED

4. FOR THIS MODULE, TRY TO GET DIFFERENT TYPES OF JOBS TO PRINT. DO AT LEAST THE FOLLOWING:
    - A. 3 JOBS OF AT LEAST 1,000 COPIES EACH.
    - B. 1 JOB ON SMALL STOCK.
    - C. 2 JOBS ON SHORT RUNS OF DIFFERENT STACK SIZES.

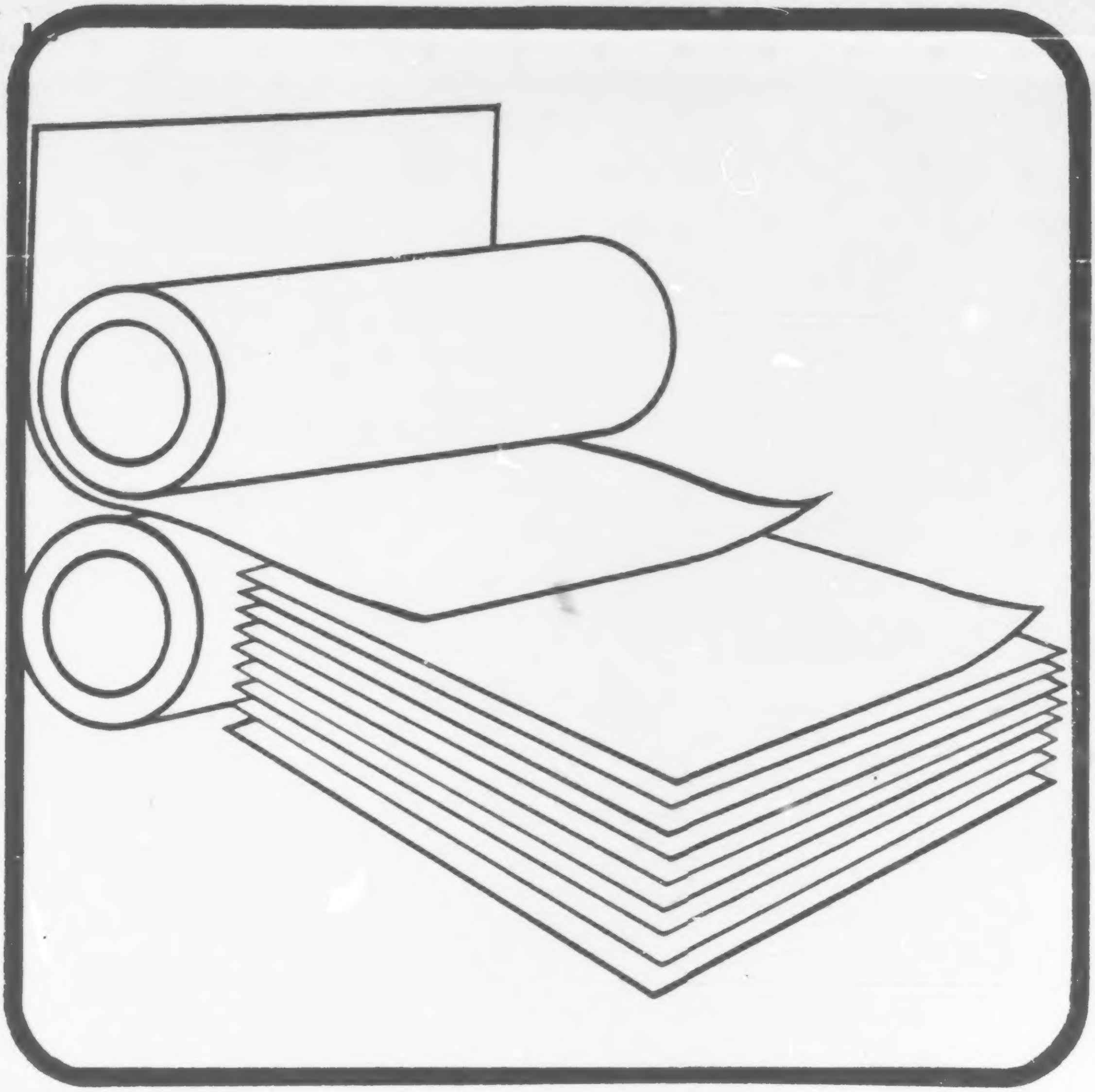
5. WHEN YOU FINISH EACH JOB, WRITE THE NUMBER OF GOOD COPIES ON THE JOB ENVELOPE.

6. TAKE EACH FINISHED JOB TO YOUR INSTRUCTOR. HE/SHE WILL CHECK YOUR WORK AND COMMENT ON THE JOB ENVELOPE.



7. GET ANOTHER JOB AND REPEAT JOB STEPS 1, 2, 3, 4 AND 5 UNTIL YOU HAVE RUN 6 JOBS. BE SURE YOUR INSTRUCTOR CHECKS AND APPROVES EACH OF YOUR JOBS.

8. GOOD WORK! YOU HAVE RUN BASIC PRODUCTION WORK ON THE A.B. DICK OFFSET PRESS.



graphics

unit: PRESSWORK

capital area career center

module: 1401 13 205 1401 13 205 3 date: DECEMBER 1977 level: II

skill title: OPERATION OF THE CHIEF 17 OFFSET PRESS

developed & written by: GLEN PETTIT

visuals by: BRUCE BENNETT

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO IDENTIFY THE MAJOR PARTS, TO RUN DIFFERENT PAPERS, TO HOLD REGISTRATION AND TO KEEP STEADY INKING ON A CHIEF 17 OFFSET PRESS.

IN ORDER TO DO THIS YOU WILL NEED:

A CHIEF 17 OFFSET PRESS
AN INSTRUCTION BOOK
FIVE KINDS OF PAPERS (1 M EACH)
PRACTICE PLATES AND PAPER
RAGS, SOLVENTS AND CHEMICALS

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU KNOW 20 MAJOR PARTS AND CONTROLS.
2. YOU CAN RUN 1 M EACH OF FIVE DIFFERENT KINDS AND SIZES OF PAPERS WITH LESS THAN 1% FEEDING ERROR.
3. YOU CAN INK-UP AND SET-UP THE PRESS FOR A NORMAL JOB.
4. YOU CAN POSITION AN IMAGE IN THE EXACT CENTER OF A SHEET AND RUN AT LEAST 2 M IMPRESSIONS IN REGISTER AND WITH UNIFORM (EVEN) INK COVERAGE.
5. YOU CAN CLEAN THE PRESS CORRECTLY.

A TAPE OF THIS MODULE IS AVAILABLE.

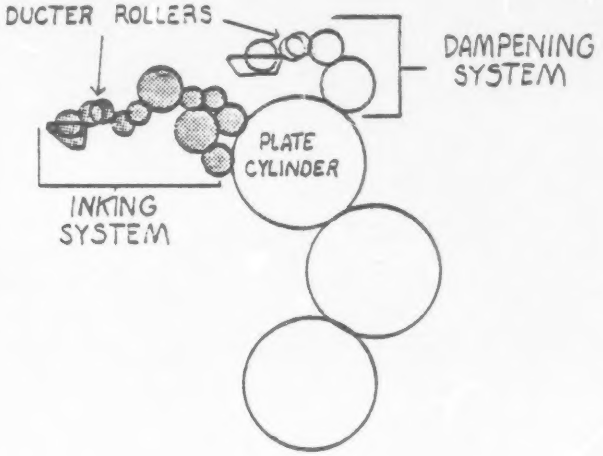
INFORMATION

YOU HAVE ALREADY LEARNED HOW TO RUN AN AB DICK OFFSET DUPLICATOR AND SHOULD KNOW ALL THE BASICS OF OFFSET LITHOGRAPHY. THE CHIEF 17 OFFSET PRESS WORKS LIKE ALL LARGE OFFSET PRESSES. IT DIFFERS FROM THE AB DICK IN THESE TWO PARTS:

1. REGISTER BOARD
2. SEPARATE INK AND WATER ROLLERS

THE LONG REGISTER BOARD CAN STRAIGHTEN UP THE PAPER AND HOLD REGISTRATION BETTER THAN THE AB DICK PRESS. SINCE YOU CANNOT MOVE THE PLATE ON THE PLATE CYLINDER, YOU CAN CHANGE THE ANGLE OF THE PAPER ON THE REGISTER BOARD.

THE SEPARATE INK AND WATER SYSTEM OF ALL LARGE OFFSET PRESSES IS CALLED THE MOLLETIN SYSTEM BECAUSE THE WATER FORM AND DUCTOR ROLLER HAVE A CLOTH COVER ON THEM.



FOR THIS MODULE, YOU WILL LEARN THE MAJOR PARTS FIRST, RUN DIFFERENT KINDS OF PAPER AND THEN RUN A METAL PLATE WITH A LARGE SOLID AREA ON 2,000 SHEETS OF PAPER. YOU HAVE 10 TO 12 HOURS TO DO THIS. YOU WILL PROBABLY RUN THREE DIFFERENT PRACTICE PLATES ON THE SAME 2,000 SHEETS OF PAPER UNTIL YOU CAN MAINTAIN BOTH REGISTER AND UNIFORM (EVEN) INK COVERAGE.

THE CHIEF 17 IS A VERY COMMON OFFSET PRESS IN OUR AREA AND IS OFTEN FOUND IN COMMERCIAL PRINT SHOPS. BECAUSE IT HAS MORE CONTROLS AND TAKES LONGER TO SET-UP THAN OTHER SMALL PRESSES, IT IS NOT USUALLY FOUND IN SMALL IN-PLANT DUPLICATING DEPARTMENTS OR IN QUICK-PRINT SHOPS. THE COST OF A CHIEF 17 WITH CHAIN DELIVERY AND SPRAY ATTACHMENT WAS $9,000 IN 1977 (SEE ILLUSTRATION ON NEXT PAGE).

INFORMATION

Minimum Sheet Size	5 x 7"
Maximum Sheet Size	11 x 17"
Paper Weights	**13 lb. to 110 lb.
Maximum Printing Area	10½ x 16½"
Gripper Bite Adjustment	³⁄₁₆ to ¼"
Gripper Margin Adjustment	¼ to ⁵⁄₁₆"
Plate Size	11 x 18" pin-bar
Blanket Size	10¹¹⁄₁₆ x 18⅝"
Speed Range	3400 to 6500 IPH
Feeder Capacity	21¾"
Delivery	Chain
Delivery Capacity	20¾"
Inking Unit 2 Forms, 1 Fixed Oscillator, 1 Auxiliary Oscillator, 4 Idlers, 1 Ductor, 1 Fountain	10 rollers
Dampening Rollers 1 Form, 1 Ductor, 1 Oscillating Vibrator, 1 Fountain	4 Rollers
Floor Space	28 x 75" (50" H)
Approximate Weight	870 lbs.
Drive Motor	⅓ HP Capacitor Start
Pump Motor	⅓ HP

*3 x 5" with accessories

**Minimum: 13 lb. (.003") Long Grain
Maximum: 110 lb. (0.10") Cover
Stock Short Grain

OPERATION - WORKING

JOB STEPS

1. CHECK OUT THE TEXT BOOK "PHOTO OFFSET LITHOGRAPHY" BY Z. A. PRUST AND READ ALL OF CHAPTER 9 'IMAGE TRANSFER' (PAGES 103-117).

2. USING THE TEXT BOOK WHILE LOOKING AT THE CHIEF 17 OFFSET PRESS, FIND AND LEARN ALL OF THE FOLLOWING:

PLATEFORM
SIDE GUIDES
WINGS
BACK GUIDE
SEPARATORS
GUIDES
ELEVATOR CONTROL
JOGGERS
AIR BLOWERS (3)
DOUBLE SHEET DETECTOR
PAPER STOPS
SHEET DETECTORS
IMPRESSION CYLINDER
PLATE CYLINDER
BLANKET CYLINDER
CHAIN DELIVERY
DAMPNER SYSTEM (4 ROLLERS)
INK SYSTEM (10 ROLLERS)
SPEED CONTROL
DELIVERY RELEASE

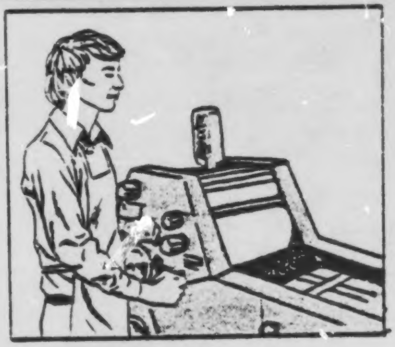
3. TAKE THE TEST FOUND ON PAGE 119 OF THE TEXTBOOK. WRITE YOUR ANSWERS ON A SEPARATE SHEET OF PAPER.

4. WHEN YOU LEARN ALL OF THE ABOVE PARTS AND CONTROLS AND HAVE TAKEN THE TEST, SHOW YOUR ANSWERS TO THE INSTRUCTOR AND HAVE HIM/HER REVIEW THE BASIC PRESS OPERATION WITH YOU. YOU WILL BE GIVEN YOUR PERSONAL COPY OF THE CHIEF 17 OFFSET PRESS INSTRUCTION MANUAL.

REMOVE - TAKE OUT

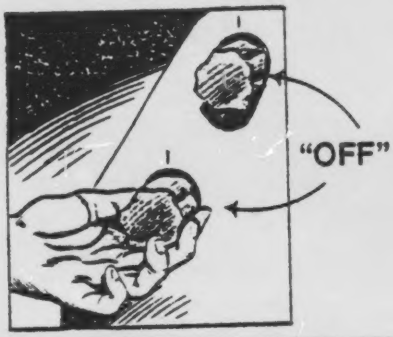
JOB STEPS

5. FIRST, TO FEED AND DELIVER PAPER WITHOUT INK OR WATER (BE SURE THESE TWO CONTROLS ARE OFF), RUN AT LEAST 1,000 EACH OF THE FOLLOWING:



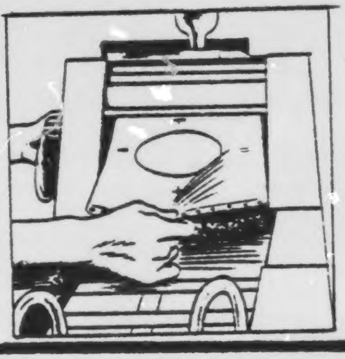
A. 8 1/2" X 11" 20# BOND PAPER
B. 5 1/2" X 8 1/2" 20# BOND PAPER
C. 11" X 17" 70# OFFSET PAPER
D. 11" X 8 1/2" BOND (THE 11" WAY)
E. STANDARD IBM CARDS

NOTE: PRACTICE UNTIL YOU CAN GET THE ENTIRE PILE OF EACH PAPER TO FEED RIGHT, WITHOUT ANY DOUBLES, SKIPS OR DROPS. THE PAPERS SHOULD FEED STEADILY WITHOUT A MISS AND COME OUT INTO A NEAT, EVEN PILE.

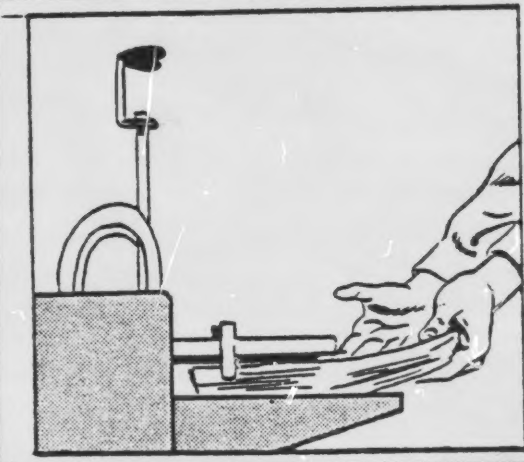


6. ASK YOUR INSTRUCTOR TO WATCH THE PRESS WHILE IT IS RUNNING. YOUR INSTRUCTOR WILL HELP YOU WITH THE NEXT STEP.

7. WHEN YOU ARE READY TO PRINT, PUT ON A 1-COLOR PRACTICE PLATE FOR THE CHIEF 17 AND SET UP THE PRESS TO PRINT ON 8 1/2" X 11" 20# BOND.



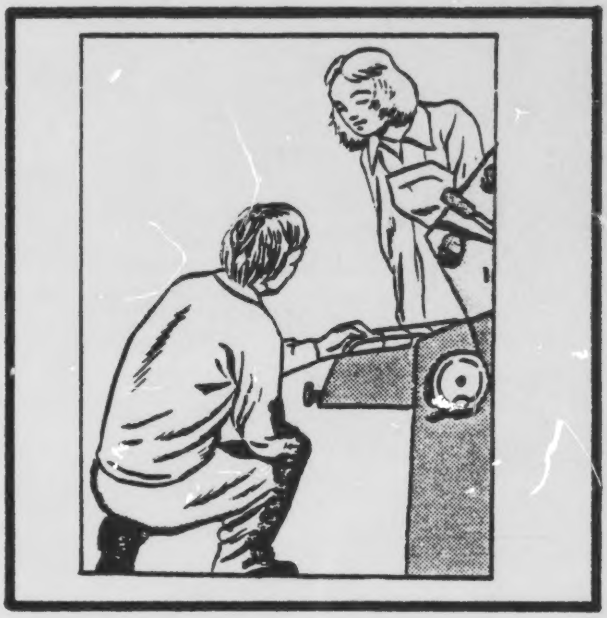
8. PUT 2,000 SHEETS IN THE FEEDER. IF THE PRESS IS NOT INKED UP, YOU MAY INK IT IN ANY COLOR (EXCEPT YELLOW).

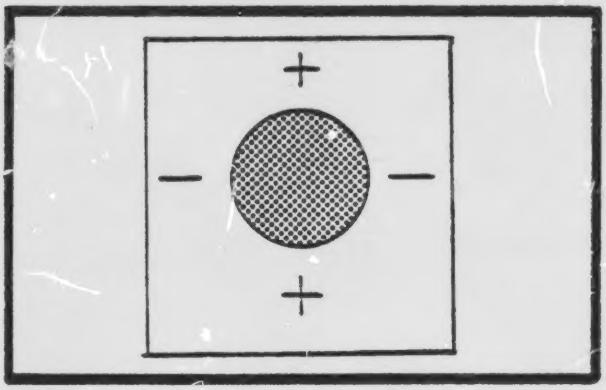


JOB STEPS

9. RUN ALL 2,000 SHEETS WITH THE IMAGE CENTERED RIGHT ON THE PAPER. KEEP THE INK THE SAME WITH STEADY, EVEN INKING DURING THE WHOLE RUN. REMOVE A SHEET EVERY 100 COPIES TO CHECK INKING.

10. HAVE YOUR INSTRUCTOR CHECK THE ENTIRE 2,000 SHEETS WHEN YOU ARE FINISHED, IN THE SAME ORDER THAT THEY WERE RUN. →





11. REPLACE THE STOCK IN THE FEEDER AND RUN THE WHOLE JOB AGAIN, PRINTING THE SAME IMAGE ON TOP OF ITSELF. THIS WAY YOU CAN CHECK REGISTRATION; THE JOB SHOULD NOT SHOW A DOUBLE IMAGE WHEN DONE. →

NOTE: YOU MAY HAVE TO RUN THIS JOB MANY TIMES TO LEARN HOW TO HOLD BOTH REGISTER AND STEADY INKING. THERE ARE MANY DIFFERENT PRACTICE PLATES FOR THIS PRESS. YOU CAN PRINT ON BOTH SIDES OF THE PAPER OR PRINT A DIFFERENT IMAGE (OR DIFFERENT COLOR) RIGHT OVER THE FIRST PRACTICE PLATE IMAGE.

12. YOUR INSTRUCTOR WILL SHOW YOU HOW TO CLEAN THE CHIEF 17 OFFSET, HOW TO REMOVE THE WHOLE INK UNIT AND HOW TO CLEAN THE MOLLETIN ROLLERS.

graphics

unit: PRESSWORK

capital area career center

1401 13 206
module: 1401 13 206 3 date: 1/78 level: II

skill title: OPERATION OF THE MULTILITH 1250 OFFSET

developed & written by: GLEN PETTIT

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO IDENTIFY THE MAJOR PARTS, TO RUN DIFFERENT KINDS OF PAPERS, TO HOLD REGISTRATION AND MAINTAIN CONSISTENT INKING ON A MULTILITH 1250 OFFSET.

IN ORDER TO DO THIS YOU WILL NEED:

A MULTILITH 1250 OFFSET PRESS
AN INSTRUCTION MANUAL
5 KINDS OF PAPER (1 M EACH)
PRACTICE PLATES
RAGS, SOLVENTS AND ALL CHEMICALS

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN IDENTIFY THE 20 MAJOR PARTS AND CONTROLS.
2. YOU CAN RUN 1 M EACH OF 5 DIFFERENT KINDS AND SIZES OF PAPERS WITH LESS THAN A 1% FEEDING ERROR.
3. YOU CAN INK-UP AND SET-UP THE PRESS FOR COMMON JOBS.
4. YOU CAN POSITION AN IMAGE IN THE EXACT CENTER OF A SHEET AND RUN AT LEAST 2 M IN REGISTER WITH UNIFORM INK COVERAGE.
5. YOU CAN CLEAN THE PRESS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

THE MULTILITH OFFSET PRESS WAS THE FIRST AND MOST POPULAR SMALL OFFSET DUPLICATOR ON THE MARKET. IT WAS MASS-PRODUCED DURING WWII AND WAS THE MOST COMMON SMALL PRESS THROUGH THE 1950'S AND EARLY 1960'S. THE MULTILITH IS STILL COMMON AND CAN BE FOUND IN MANY SHOPS TODAY. THE JAPANESE HAMADA OFFSET PRESS LOOKS AND OPERATES MUCH THE SAME WAY AS THE MULTILITH 1250.

THE COST OF A MULTILITH 1250 (1978) IS ABOUT $8,000. PAPER SIZES ARE 3" X 5" TO 11" X 14" OR 11" X 17" (2 SIZES). SPEED IS 4,500 TO 9,000 RPH (REVOLUTIONS PER HOUR).

WORD GUIDE

REPELEX UNIT - SAME AS WATER FOUNTAIN SOLUTION

JOB STEPS

1. YOU SHOULD HAVE COMPLETED THE MODULE ON "OPERATION OF THE CHIEF 17 OFFSET PRESS", #1401 13 205, BEFORE STARTING THIS MOD.

2. GET A COPY OF THE MULTILITH 1250 REFERENCE MANUAL (ASK YOUR INSTRUCTOR) AND READ CHAPTERS 1 AND 2.

3. USING THE REFERENCE MANUAL WHILE AT THE MULTILITH 1250, LOCATE ALL OF THE FOLLOWING:

   SPEED CONTROL
   INK FOUNTAIN ROLLER KNOB
   INK FORM ROLLER CONTROL KNOBS
   REPELEX CONTROLS
   REPELEX FOUNTAIN CONTROL KNOB
   REPELEX FORM ROLLER CONTROL KNOB
   COUNTER
   HANDWHEEL
   IMPRESSION ADJUSTMENT
   VACUUM SWITCH
   MACHINE SWITCH
   VACUUM & BLOWER CONTROLS
   PAPER RECEIVER (DELIVERY)
   INK UNIT
   REPELEX UNIT
   SINGLE LEVER CONTROL
   REGISTER BOARD
   FEEDER
   PAPER ELEVATOR CRANK
   PRINTING HEAD

4. WHEN YOU ARE FAMILIAR WITH ALL OF THE ABOVE PARTS AND CONTROLS AND HAVE READ THE MANUAL, GO OVER THE BASIC OPERATION OF THE MULTILITH 1250 SO YOU CAN TELL YOUR INSTRUCTOR HOW IT OPERATES.

5. AFTER YOU HAVE BEEN APPROVED FOR OPERATION AND HAVE REVIEWED SAFETY WITH YOUR INSTRUCTOR, RUN THE SAME 5 KINDS OF PAPERS YOU RAN ON THE CHIEF 17, WITHOUT INK:

   A. 8 1/2" X 11" 20# BOND
   B. 5 1/2" X 8 1/2" 20# BOND
   C. 11" X 17" 70# OFFSET PAPER
   D. 11" X 8 1/2" BOND (THE 11" WAY)
   E. STANDARD IBM CARDS

graphics

unit: PRESSWORK

capital area career center

1401 13 207

module: 1401 13 207 3 **date:** DECEMBER 1977 **level:** III

skill title: ADVANCED OPERATION AND PRODUCTION ON THE CHIEF 17 OFFSET PRESS

developed & written by: GLEN PETTIT

visuals by:

WORD GUIDE

LUBRICATE - OIL OR GREASE

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO DO WORK ON THE CHIEF 17 OFFSET PRESS.
2. HOW TO GET THE INFORMATION AND RECORD PRODUCTION AND HOW TO LUBRICATE THE PRESS WHEN FINISHED.

AND IN ORDER TO DO THIS YOU WILL NEED:

A CHIEF 17 OFFSET PRESS

AT LEAST 5 DIFFERENT PRODUCTION JOBS WITH JOB ENVELOPES

RAGS, SOLVENTS AND CHEMICALS

LUBRICATION CHARTS AND OILS

WE WILL KNOW YOU CAN DO IT WHEN:

1. THE PRINTED JOBS MEET THE CUSTOMER'S NEEDS AND TRADE STANDARDS FOR TIME QUALITY, POSITION AND QUANTITY.
2. YOU HAVE FOLLOWED THE JOB ENVELOPES CORRECTLY AND WRITTEN DOWN ALL THE INFORMATION YOU SHOULD HAVE.
3. YOU CAN CLEAN AND LUBRICATE THE CHIEF 17 OFFSET TO THE MANUFACTURER'S LUBRICATION CHARTS AND UIDE-LINES.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

TO FINISH THIS MODULE YOU MAY NEED 10 TO 15 HOURS AND THIS MAY BE SPREAD OVER MANY MONTHS BECAUSE YOU WILL BE RUNNING LINE PRODUCTION JOBS. BY NOW, YOU KNOW THE HIGH COST OF PAPER AND THE NEED FOR RUNNING NEW PAPER. IN THIS MODULE, READ AND FOLLOW THE INSTRUCTIONS ON A JOB ENVELOPE AND RUN PRODUCTION WORK WITH DEADLINES.

HERE ALSO ARE: A STANDARD 11" X 17" NEWSPAPER WITH HALFTONES AND PRINTED BOTH SIDES; A 2-COLOR REGISTRATION JOB; A SMALL POST-CARD SIZE JOB; AN ENVELOPE JOB PLUS ENOUGH OTHER JOBS TO TOTAL UP TO AT LEAST 10,000 IMPRESSIONS. KEEP A FULL, CLEAR RECORD AND AN EXAMPLE OF EACH JOB.

YOU LEARNED HOW TO READ A JOB ENVELOPE FOR OFFSET PRINTING IN MODULE 1401 13 204 "BASIC PRODUCTION PRINTING ON THE AB DICK OFFSET DUPLICATOR". IF YOU HAVE ANY QUESTIONS ON READING A JOB ENVELOPE, CHECK WITH YOUR INSTRUCTOR (THERE ARE 2 SAMPLE JOB ENVELOPES ON THE NEXT PAGE TO GO OVER).

TO GET YOUR JOBS, WATCH THE PRODUCTION CONTROL BOARD AND CHECK WITH THE STUDENT MANAGER SO YOU CAN SCHEDULE YOURSELF. YOU CAN GET PRACTICE PLATES TO DO ALL OF THE JOBS BUT LINE PRODUCTION IS THE BEST IF THERE'S ONE FOR YOU TO DO.

SEE THE NEXT PAGE FOR EXAMPLES OF JOB ENVELOPES.

13-207

CODE OF STUDENT CONDUCT

2325

GRAPHICS & VISUAL COMMUNICATIONS — CAPITAL AREA CAREER CENTER

JOB Code of Student Conduct

CUSTOMER FOR (NAME) Leo Schuck PHONE 676-3335 DATE RECEIVED 10/28/78

PROGRAM/DEPT Admin - CACC WORK REQUEST # 1809

FORM # ACC'T # 41-110-3210-0

1. PRODUCTION 2. STUDENT PROJECT ESTIMATED PRODUCTION HOURS DATE PROMISED 11/15/78

NUMBER NEEDED 2400

INSTRUCTIONS/DESCRIPTION: Design & run 2400 books (5½×8½" folded) 3 signatures (1 inside cover)

INITIALS	DATE				MATERIALS
		COMPOSITION	WROTE BY: GP ESTIMATED BY:		
			MACHINE (Text)		
			PHOTO (Headline)		
AE	11/01		ORIGINAL ARTWORK design cover		
			PMT		
			OTHER		2.00
TL.	11/02	CAMERA-PLATE	NEGATIVES: PASTE-UP		
			SPECIAL CAMERA: 8 (10x12)	1.50	12.00
			STRIPPING: 4 HALFTONES:		4.00
R.	11/03		8 PROOFS: (Silverprint) (Color-Key)	.25	2.00
			PLATES: 8 (E) (S) (P) (Electro) (10x15) (11x17)	2.50	20.00
		MATERIALS	STOCK: 5200 SHTS 8½ × 11 KIND FOREBOND WT. 20 COLOR W	5.00 /M	26.00
			STOCK: 2600 SHTS 8½ × 11 KIND COVER WT. 65 COLOR blue	20.00 /M	32.00
			STOCK: SHTS × KIND WT. COLOR	/M	
			CUT TO × PSS (Amount)		
			OTHER		
RH	11/10/78	PRESSWORK	INK: (Black) (Color)		
TS	11/11		LETTERPRESS (Chief 17) AB DICK MULTI SILKSCREEN OTHER		
			PRINTING INSTRUCTIONS: front & back		1.00
BK	11/13	FINISHING	(COLLATE) ASSEMBLE (FOLD) DRILL (STITCH) PAD (Shts/pad:) OTHER:		10.00
R	11/13		FINISHING INSTRUCTIONS: 1/2 2x		5.00
			(WRAP) (Paper) (Plastic) 50 books/pkg TRIP TO FTS		
			(DELIVER) (WILL PICK UP)		2.25
			ADDITIONAL COSTS		
NUMBER PRINTED:		ACCOUNTING	FILE: ORIGINAL/PLATE:		
			TIME: (STUDENT) (PRODUCTION)	TOTAL MATERIALS COST	
			DATE DELIVERED: 11/13/78 BY Karen Ampeona BILLED:	PRODUCTION COST	
			COMMENTS:	EXTRA RUSH	
				TOTAL JOB COST	

GVC-01

CAPITAL AREA CAREER CENTER — 611 HAGADORN ROAD — MASON, MICHIGAN 48854

SAMPLE RESUME

2138

GRAPHICS & VISUAL COMMUNICATIONS — CAPITAL AREA CAREER CENTER

JOB SAMPLE RESUMÉ

CUSTOMER FOR (NAME) Bob Thelen PHONE 63310 DATE RECEIVED 10/25/78

PROGRAM/DEPT Student Services - CACC WORK REQUEST # 1701

FORM # ACC'T # 41-170-3430-0

1. PRODUCTION 2. STUDENT PROJECT ESTIMATED PRODUCTION HOURS DATE PROMISED 11/12/78

NUMBER NEEDED 600

INSTRUCTIONS/DESCRIPTION: Run 600 8½×11" Resumé, printed 2-sides, black on white paper

INITIALS	DATE				MATERIALS
		COMPOSITION	WROTE BY: GP ESTIMATED BY:		
			MACHINE (Text)		
			PHOTO (Headline)		
			ORIGINAL ARTWORK Furnished		
			PMT		
			OTHER		
SA	11/05	CAMERA-PLATE	NEGATIVES: PASTE-UP		
KG	11/07		SPECIAL CAMERA: 2 (10x12)	1.50	3.00
KR	11/07/78		STRIPPING: ✓ HALFTONES: PROOFS: (Silverprint) (Color-Key)		
			PLATES: 2 (E) (S) (P) (Electro) (10x15) (11x17)	2.50	5.00
		MATERIALS	STOCK: 1300 SHTS 8½ × 11 KIND FOREBOND WT. 20 COLOR W	5.00 /M	6.50
			STOCK: SHTS × KIND WT. COLOR	/M	
			STOCK: SHTS × KIND WT. COLOR	/M	
			CUT TO × PSS (Amount)		
			OTHER:		
KR	11/8	PRESSWORK	INK: (Black) (Color)		
			LETTERPRESS (Chief 17) 1X up AB DICK MULTI SILKSCREEN OTHER		
			PRINTING INSTRUCTIONS: front & back 2 sheets		1.00
KR	11/9	FINISHING	1.3m × 2.00		2.60
			(COLLATE) ASSEMBLE FOLD DRILL (STITCH) PAD (Shts/pad:) OTHER:		
RP	11/10/78		FINISHING INSTRUCTIONS: auto one in upper left corner		1.50
			(WRAP) (Paper) (Plastic) 100 set/pkg TRIP TO — × — FTS		
			(DELIVER) (WILL PICK UP)		.25
			ADDITIONAL COSTS		
NUMBER PRINTED:		ACCOUNTING	FILE: ORIGINAL/PLATE:		
			TIME: (STUDENT) (PRODUCTION)	TOTAL MATERIALS COST	20.45
			DATE DELIVERED: 11/10 BY: Terri Scott DATE BILLED:	PRODUCTION COST	
			COMMENTS:	EXTRA RUSH 10%	2.05
				TOTAL JOB COST	22.49

GVC-01

CAPITAL AREA CAREER CENTER — 611 HAGADORN ROAD — MASON, MICHIGAN 48854

4

JOB STEPS

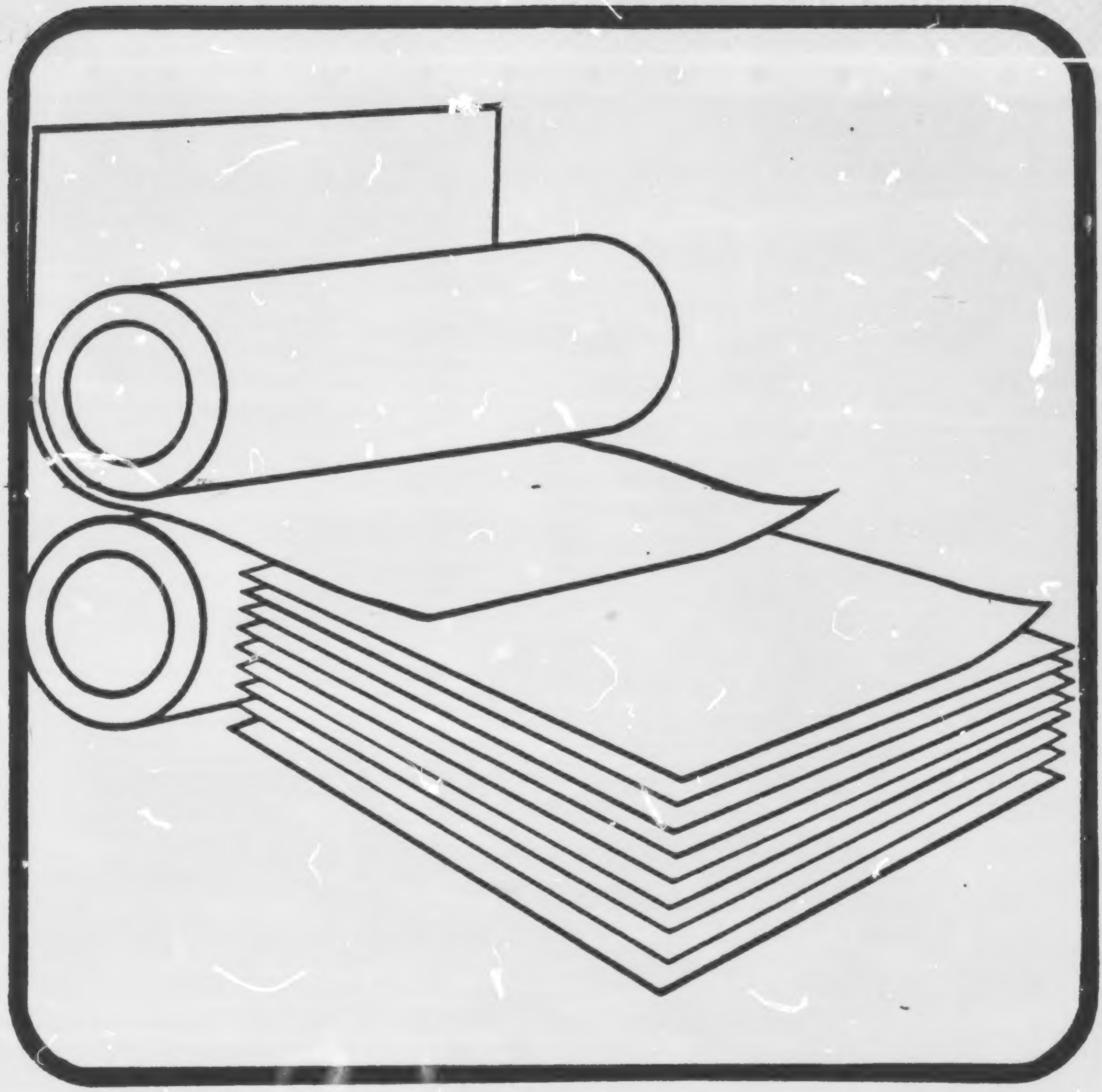
1. BEFORE YOU START THIS MODULE, YOU MUST BE ABLE TO HOLD TIGHT REGISTRATION, KEEP STEADY, EVEN INKING AND BE ABLE TO CLEAN THE CHIEF 17 OFFSET PRESS ALONE (MODULE 1401 13 205).

2. TO FINISH THIS MODULE, YOU MUST KEEP GOOD, CLEAN RECORD AND AN ACTUAL SAMPLE OF EACH JOB YOU DO; WRITE THE DATE, JOB NUMBER, QUANTITY RUN AND CUSTOMER ON EACH OF THE FOLLOWING TYPES OF JOBS ON YOUR JOB RECORD SHEET:

   A. A 11" X 17" NEWSPAPER, PRINTED 2 SIDES
   B. A 2-COLOR REGISTRATION JOB
   C. A SMALL CARD JOB (TICKETS)
   D. AN ENVELOPE JOB
   E. ENOUGH JOBS THAT WILL TOTAL AT LEAST 20,000 IMPRESSIONS

3. LUBRICATE THE WHOLE PRESS FOLLOWING THE SEVEN LUBRICATION CHARTS SHOWN IN YOUR COPY OF THE INSTRUCTION BOOK FOR THE CHIEF 17.

4. WHEN YOU HAVE FINISHED ALL OF THE ABOVE, YOU SHOULD SHOW YOUR JOB RECORD SHEET AND EXAMPLES TO YOUR INSTRUCTOR FOR CREDIT AND BE ABLE TO SHOW HIM/HER YOUR SKILLS ON THE CHIEF 17 OFFSET.



graphics

unit: PRESSWORK

capital area career center

module: 1401 13 208
1401 13 208 3 date: JANUARY 1978 level: II

skill title: OPERATION OF THE MULTILITH 2850 AUTOMATIC DUPLICATOR

developed & written by: GLEN PETTIT

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO PROGRAM THE MULTILITH 2850 FOR SYSTEM OPERATION, MAINTAIN THE MASTER FEEDER AND SYSTEM AND RUN THE DUPLICATOR.

IN ORDER TO DO THIS YOU WILL NEED:

A MULTILITH 2850 AUTOMATIC DUPLICATOR
OPERATOR'S MANUAL
ELECTROSTATIC MASTERS & PAPER
ALL NECESSARY SUPPLIES AND CHEMICALS

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN SET UP AND PROGRAM THE MULTILITH 2850 FOR CONTINUOUS OPERATIONS (INCLUDING PACK FEEDER, COUNTER, CYCLING CONTROL AND MAIN CONTROL PANEL).
2. YOU CAN INK-UP, GET POSITION AND CLEAN UP THE MULTILITH 2850.
3. YOU CAN CHANGE ELECTROSTATIC SOLUTION AND BLANKET CLEANER SOLUTION.
4. YOU CAN RUN THE MULTILITH 2850 AND DO PRODUCTION WORK TO PRODUCTION TRADE STANDARDS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

AN "AUTOMATIC DUPLICATOR" OR "DUPLICATOR SYSTEM" MEANS A PRESS THAT AUTOMATICALLY PUTS THE PLATES ON THE PRESS IN POSITION, TURNS ON THE INK AND WATER CONTROLS, FEEDS THE PAPER, PRINTS THE CORRECT NUMBER OF SHEETS, REMOVES THE PLATE, CLEANS THE BLANKET, THEN STARTS THE NEXT PLATE -- ALL AUTOMATICALLY WITHOUT THE PRESSPERSON TOUCHING THE PRESS.

THE PLATE IS AN INEXPENSIVE ELECTROSTATIC PAPER MASTER THAT IS PLACED IN A MASTER-FEEDER. JUST BEFORE THE MASTERS ARE PUT ON THE PRESS THEY GO THROUGH A LIQUID ELECTROSTATIC SOLUTION AND THEN ARE PUT ONTO THE PRESS AUTOMATICALLY.

THE COUNTER IS A PUSH-BUTTON BACKWARD-COUNTING DEVICE THAT STOPS THE PAPER FEED AND TELLS THE PRESS TO CLEAN ITSELF.

THE MASTER IS REMOVED AUTOMATICALLY AND A SPONGE WITH BLANKET WASH WIPES AGAINST THE BLANKET TO REMOVE THE INK. THE CYCLING CONTROL CAN BE SET TO TELL THE PRESS HOW MANY REVOLUTIONS TO MAKE BETWEEN EACH STEP OR OPERATION.

THE MULTILITH 2850 HAS SEVERAL DOZEN MICRO-SWITCHES THAT TELL IT WHERE THE PAPER OR MASTER IS, OR IN WHICH STEP THE PRESS IS.

A DUPLICATOR SYSTEM WILL START AT $13,000. BOTH MULTILITH AND A.B. DICK MAKE DUPLICATOR SYSTEMS THAT CAN ALSO HAVE A MASTER MAKER OR A COLLATOR ATTACHED TO THEM.

JOB STEPS

1. YOU MUST HAVE COMPLETED THE MODULE "OPERATION OF THE MULTILITH 1250 OFFSET", #1401 13 207, AND "PRODUCING ELECTROSTATIC MASTERS", #1401 12 009.

2. GET A COPY OF THE MULTILITH 2850 OPERATOR'S MANUAL AND READ ALL 15 PAGES.

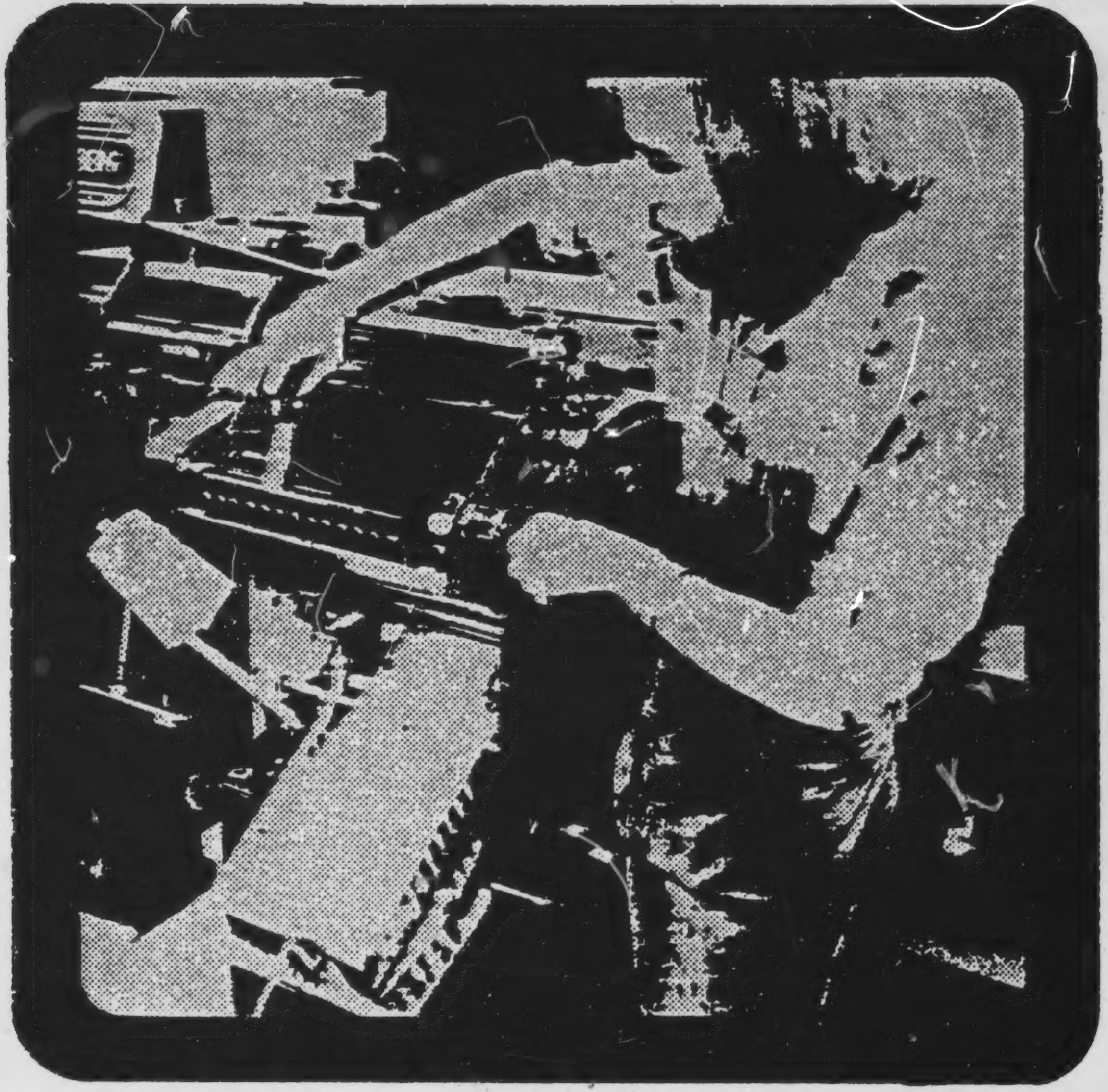
3. CAREFULLY GO OVER ALL THE OPERATING CONTROLS, THEIR DEFINITION AND FUNCTIONS, AS OUTLINED IN THE OPERATOR'S MANUAL.

4. YOUR INSTRUCTOR WILL GO OVER THE COMPLETE OPERATION OF THE MULTILITH 2850 WITH YOU, INCLUDING:

   SET-UP (PAPER FEEDER, REGISTER AND DELIVERY)
   PREPARATION (INK, REPELEX, AND ELECTROSTATIC SOLUTION)
   PROGRAM (COUNTER & CYCLING CONTROLS)
   INSERTING MASTERS
   THE AUTO-BLANKET CLEANER
   THE MAIN CONTROL PANEL
   WATER, INK & PRESSURE CONTROLS
   SAFETY
   CHECKING MICRO SWITCHES
   PRODUCTION
   CLEAN-UP

5. BECAUSE OF THE HIGH COST OF PAPER AND MASTERS (AT LEAST $35 PER HOUR), YOU MAY ONLY BE ABLE TO DO LINE PRODUCTION WITH YOUR INSTRUCTOR ON THIS PRESS. LOOK OVER THE AUTOMATIC DUPLICATOR CAREFULLY AND BE SURE YOU UNDERSTAND ALL THE BASIC FUNCTIONS.

6. WHEN YOU SEE THE MULTILITH 2850 IN OPERATION, WATCH OR HELP. IF A PRODUCTION JOB COMES IN, YOUR INSTRUCTOR WILL ASK FOR YOU TO ASSIST.



graphics

unit: PRESSWORK

capital area career center

module: 1401 13 209
1401 13 209 3 date: 12/77 level: II

skill title: OPERATION OF THE HEIDELBERG KORD OFFSET

developed & written by: GLEN PETTIT

visuals by: 113

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO IDENTIFY THE MAJOR PARTS & SYSTEMS AND LEARN THE BASIC OPERATION OF A HEIDELBERG KORD OFFSET

AND IN ORDER TO DO THIS YOU WILL NEED:

A HEIDELBERG KORD OFFSET PRESS (ON FIELD TRIP)

LIST OF PARTS TO LOCATE AND IDENTIFY

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN LOCATE AND DESCRIBE THE FUNCTION OF EACH OF THE PARTS LISTED.
2. YOU HAVE WATCHED AND ASSISTED IN RUNNING A HEIDELBERG KORD OFFSET FOR AT LEAST 2 HOURS IN A PRODUCTION SHOP AND HAVE THE PERSON'S SIGNATURE TO VERIFY THIS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

THE HEIDELBERG KORD OFFSET IS A MEDIUM-SIZE HIGH QUALITY OFFSET PRESS. IT IS VERY COMMON THROUGHOUT THE WORLD AND MANY SHOPS IN OUR AREA HAVE ONE. THERE ARE MANY SIZES AND KINDS OF HEIDELBERG OFFSETS, THE MOST COMMON IN OUR AREA IS THE KORD. THE

SHEET SIZE:	14 X 18 CENTIMETERS (5 1/2" X 7") TO 46 X 64 CENTIMETERS (18" X 25")
INK ROLLERS:	4 DIFFERENT SIZE FORM ROLLERS
SPEED:	6000 IPH
COST:	$25,000 (1977)

THE HEIDELBERG IS A VERY EASY PRESS TO LEARN TO RUN, AS ARE MOST LARGE OFFSETS ONCE YOU KNOW HOW TO RUN A SMALL OFFSET. ON A LARGE PRESS, ONCE YOU MAKE A SETTING OR AN ADJUSTMENT THE CONTROL WILL STAY THERE....ALMOST FOREVER (ON A SMALL OFFSET, AS YOU KNOW, SETTINGS CHANGE FREQUENTLY BY THEMSELVES). LARGE PRESSES HAVE MORE ROLLERS, LARGER FOUNTAINS, MORE ACCURATE CONTROLS AND ARE VERY SOLID.

YOU WILL LEARN ABOUT LARGER OFFSETS BY LOOKING THROUGH SOME LITERATURE FIRST, THEN VISITING A SHOP AND WORKING WITH A PRESS PERSON WHO IS RUNNING A HEIDELBERG OFFSET.

JOB STEPS

1. LOOK THROUGH THE INFORMATION POCKET ON THE HEIDELBERG KORD OFFSET AND RELATED EQUIPMENT (ASK YOUR INSTRUCTOR).

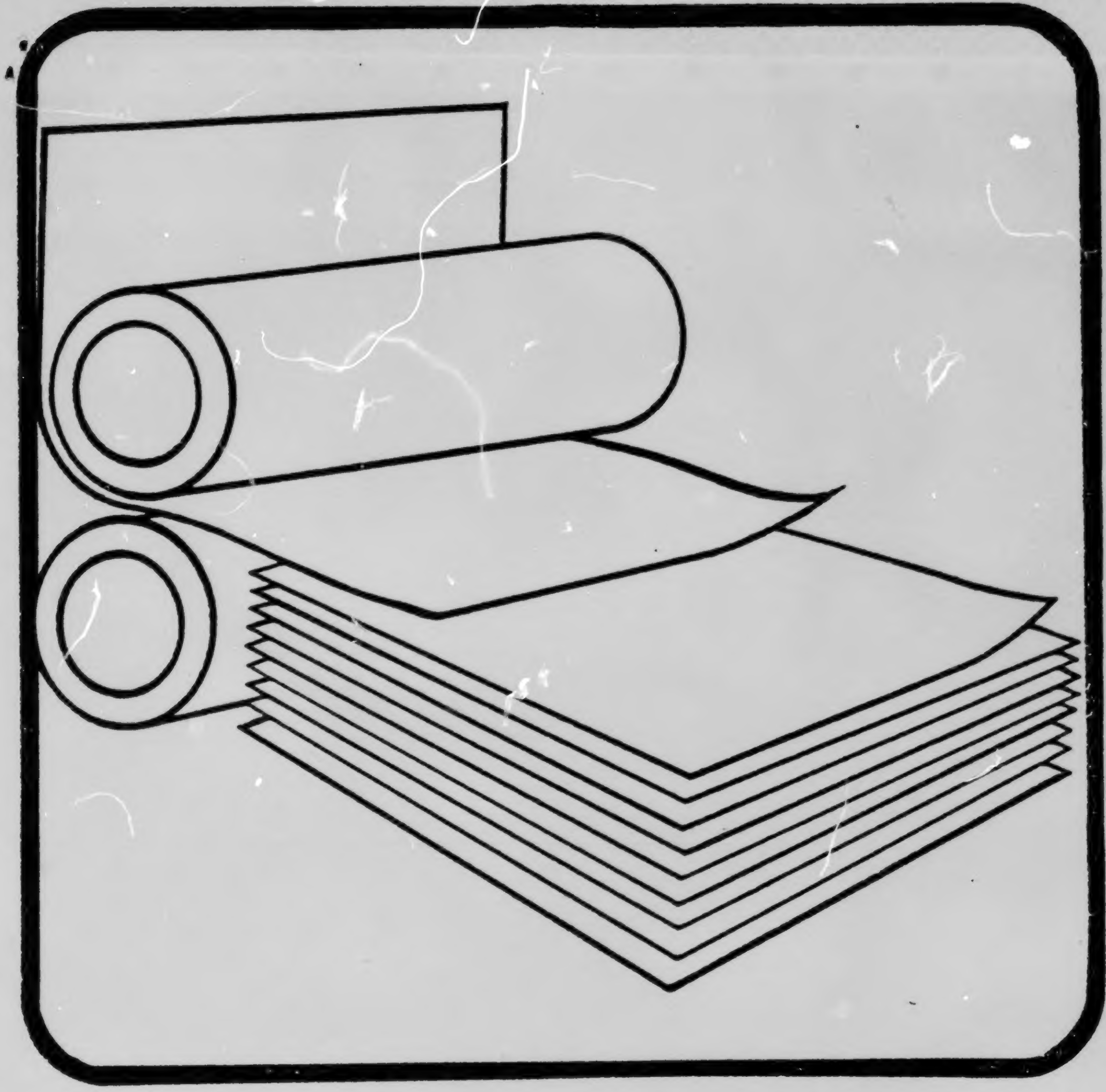
2. WHILE LOOKING THROUGH THE MATERIALS, LOCATE AND COMPARE THE FOLLOWING PARTS & SYSTEMS WITH OTHER OFFSET PRESSES YOU HAVE RUN:

   - INTERCHANGEABLE PLATE SHELL
   - MICROMETER CONTROL OF INK ROLLERS
   - 4 SIZES OF INK FORM ROLLERS
   - CLEAN-UP ATTACHMENT
   - CNETRAL LUBRICATION
   - REGISTER BOARD
   - FEEDING SYSTEM
   - INK SYSTEM
   - WATER SYSTEM
   - DELIVERY SYSTEM

3. SINCE WE DO NOT HAVE A HEIDELBERG KORD OFFSET PRESS YOU WILL HAVE TO EXAMINE ONE IN A PRINT SHOP OF A FIELD TRIP. YOU MAY BE ASKED TO VISIT A SHOP AND STUDY THE HEIDELBERG OFFSET AS PART OF YOUR COMPETENCY CHECK.

4. WHEN YOU ARE READY FOR YOUR VISITATION, LET YOUR INSTRUCTOR KNOW AND HE WILL SCHEDULE YOU IN A LOCAL SHOP IN PLACE OF ATTENDING THE CAREER CENTER. YOU WILL HAVE AN OPPORTUNITY TO WATCH THE PRESS IN OPERATION. THE PRESS PERSON WILL SIGN YOUR OBSERVATION FORM AFTER YOU HAVE CLOSELY WATCHED THE MACHINE IN OPERATION.

5. AFTER YOUR VISITATION, YOU WILL BE ASKED MANY ORAL QUESTIONS ABOUT THE HEIDELBERG. GIVE THE OBSERVATION FORM TO YOUR INSTRUCTOR FOR CREDIT.



graphics

unit: PRESSWORK

capital area career center

1401 13 210

module: 1401 13 210 3 date: APRLL 1977 level: II

skill title: HOW TO PRINT ELECTROSTATIC AND DIRECT IMAGE MASTERS ON THE OFFSET PRESS

developed & written by: GLEN PETTIT AND DWIGHT SMITH

visuals by: MARIE GOUGEON & SANDRA STARNAMAN

WORD GUIDE

ELECTROSTATIC - A WAY OF USING POSITIVE AND NEGATIVE ELECTRICITY TO MAKE A PRINTING PLATE.

DIRECT IMAGE - A TYPE OF PRINTING PLATE ON WHICH YOU PUT THE IMAGE WITH SPECIAL MARKERS, INK OR TYPEWRITER RIBBONS.

TONING - BACKGROUND WITH SMALL BLACK DOTS. THESE AREAS SHOULD BE WHITE (ALSO CALLED "SCUM"). TONING IS CAUSED BY TOO LITTLE WATER OR THE WRONG FOUNTAIN SOLUTION.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO PRINT WITH ELECTROSTATIC MASTERS AND DIRECT IMAGE PAPER MASTERS.

AND IN ORDER TO DO THIS YOU WILL NEED:

A B DICK OFFSET PRESS
OFFSET CHEMICALS AND SUPPLIES
PRE-MADE ELECTROSTATIC MASTERS
DIRECT IMAGE MASTERS AND MARKERS

WE WILL KNOW THAT YOU CAN DO IT WHEN:

1. YOU HAVE HANDLED, PRINTED AND PRESERVED BOTH PAPER AND ELECTROSTATIC MASTERS.
2. YOU GET THE IMAGE AND FINAL PRINTED PAGES:
   - A. POSITIONED
   - B. FLAT AND CLEAN
   - C. SHARP, CLEAR AND UNIFORM
   - D. FREE FROM TRACKING, SCUMMING (TONING) OR STREAKING.

INFORMATION

DIRECT IMAGE AND ELECTROSTATIC PRINTING PLATES ARE THE CHEAPEST KINDS. BOTH COST ABOUT $ .10 EACH.

ELECTROSTATIC PLATES ARE MADE IN A SPECIAL MACHINE (REFER TO MOD 1401 12 009). DIRECT IMAGE PAPER MASTERS ARE OFTEN MADE ON A TYPEWRITER (REFER TO MOD 1401 12 008).

BOTH TYPES OF PLATES ARE USEFUL BECAUSE THEY ARE FAST, CHEAP AND DO NOT REQUIRE EXPENSIVE EQUIPMENT. A CAMERA AND PLATEBURNER MIGHT COST OVER $5,000 BUT AN ELECTROSTATIC PLATEMAKER MIGHT COST AS LITTLE AS $500. FOR DIRECT IMAGE PLATES, YOU NEED ONLY A TYPEWRITER.

BOTH DIRECT IMAGE AND ELECTROSTATIC PLATES ARE FOR SHORTRUN PRINTING JOBS. MOST OFTEN, YOU WILL PRINT BETWEEN 100 AND 500 COPIES AND THEN THROW AWAY THE PLATE.

BE CAREFUL WHEN YOU HANDLE THESE PLATES. HANDLE THEM BY THE EDGES ONLY. OILS FROM YOUR FINGERS CAN SHOW UP ON THE FINAL JOB.

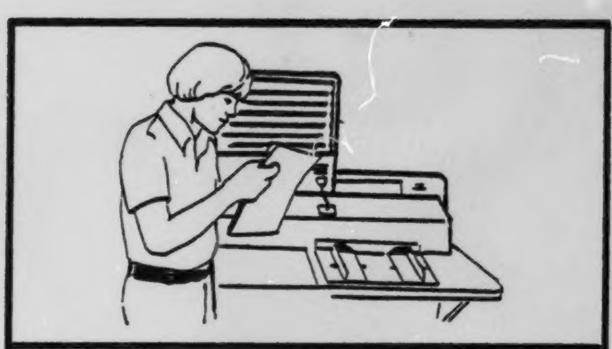
WHEN YOU ETCH THE PLATES FOR PRINTING, DO A GOOD JOB. IF YOU MISS JUST ONE SMALL SPOT WHEN ETCHING IT WILL INK UP AND RUIN THE PLATE COMPLETELY.

THE FOUNTAIN SOLUTION IS DIFFERENT FROM THE SOLUTION YOU USE FOR PRINTING METAL PLATES. ASK YOUR INSTRUCTOR WHICH FOUNTAIN SOLUTION YOU SHOULD USE. HERE AT THE CACC, WE PRINT ONLY A FEW PAPER AND ELECTROSTSTIC MASTERS AT A TIME. YOU WILL USE THE METAL PLATE FOUNTAIN SOLUTION FOR THE PAPER PLATES.

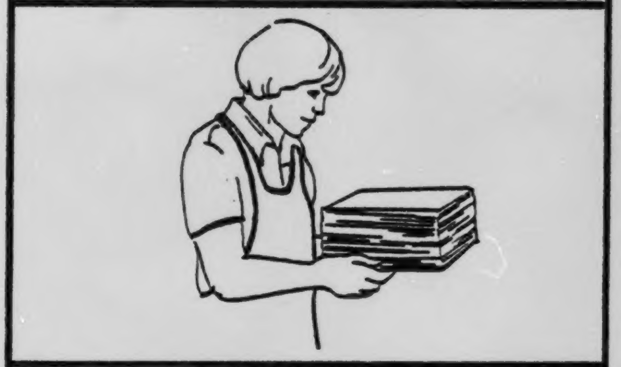
"PHOTO-DIRECT" IS ONE MORE WAY TO MAKE CHEAP PLATES FOR PRINTING. THESE ARE MEDIUM-RUN PLATES (UP TO 5,000 COPIES) AND ARE PRODUCED BY A SPECIAL PHOTO-DIRECT CAMERA. THE PLATES ARE MADE OF PAPER AND PLASTIC AND COST ABOUT $ .50 EACH.

JOB STEPS

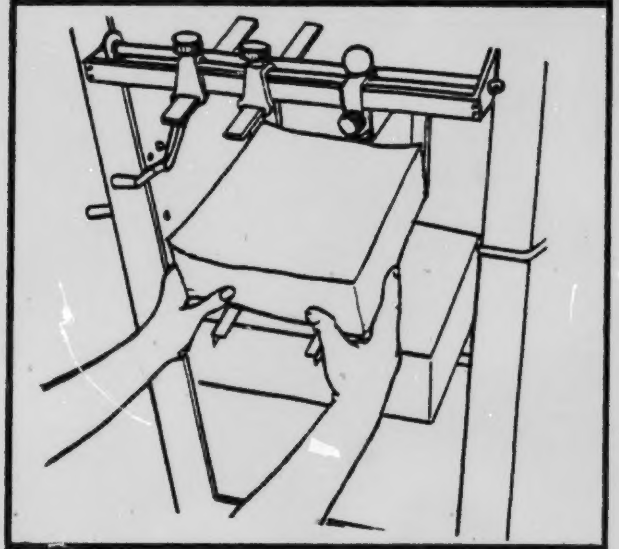
1. ASK YOUR INSTRUCTOR FOR 3 ELECTROSTATIC MASTERS OR IF YOU HAVE COMPLETED MOD 1401 12 009 (ELECTROSTATIC MASTERS), MAKE THEM YOURSELF. USE A PAGE OUT OF A MAGAZINE FOR COPY. →



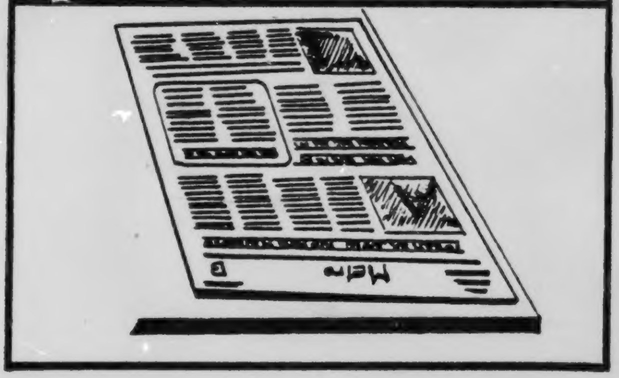
2. GET ABOUT 1000 SHEETS OF 8 1/2" X 11" SCRAP PAPER (10 TO 12 CM PILE). TRY TO GET SCRAP WITH 1 BLANK SIDE. AND WITHOUT FOLDS OR WRINKLES. →



3. SET UP THE PRESS FOR PRINTING 8 1/2" X 11" PAPER. →

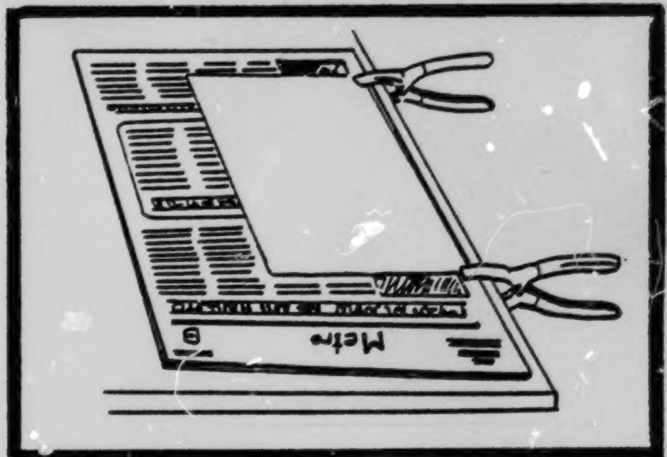


4. SPREAD A NEWSPAPER SECTION ON THE TABLE. →

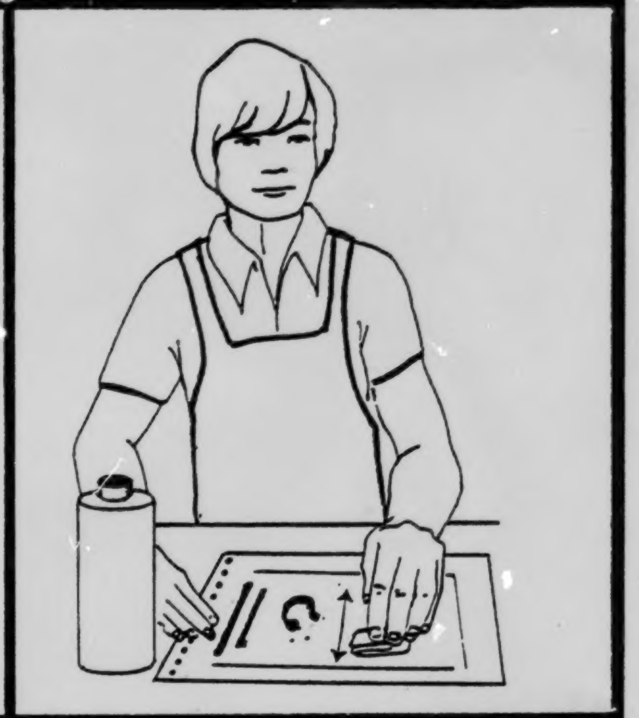


JOB STEPS

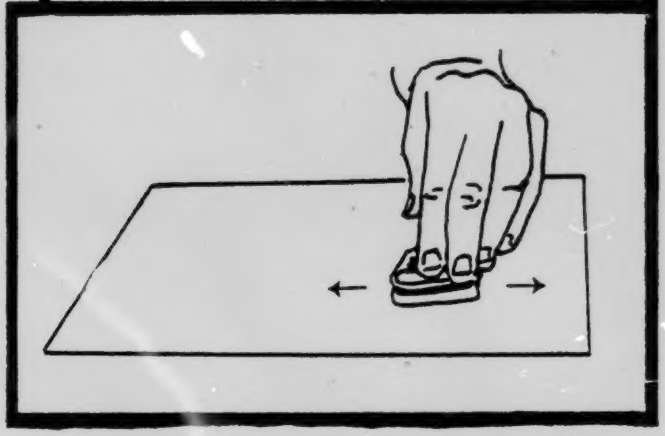
5. CLAMP THE FIRST ELECTROSTATIC MASTER TO THE TABLE.



6. USING A COTTON PAD FOLDED IN QUARTERS, COAT THE MASTER WITH ELECTROSTATIC SOLUTION. WIPE IT IN ONE DIRECTION UNTIL THE WHOLE PLATE IS COATED.

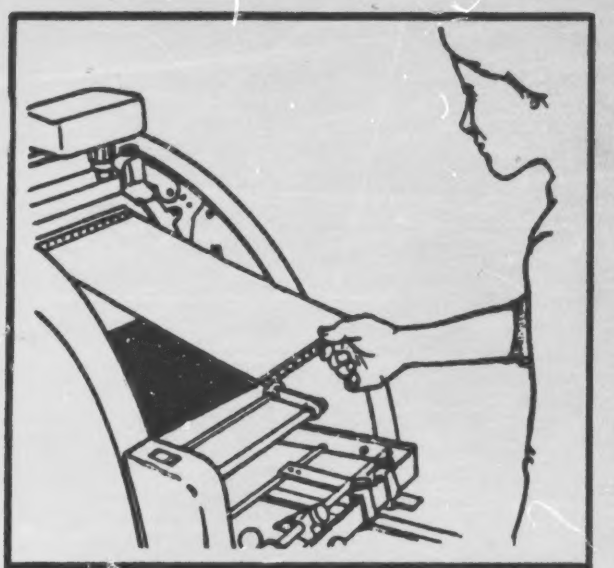


7. WIPE THE PLATE AGAIN IN A DIFFERENT DIRECTION. BE SURE THE PLATE IS COATED WELL BECAUSE ANY SPOTS YOU MISS WILL PICK UP INK AND CANNOT BE FIXED LATER.

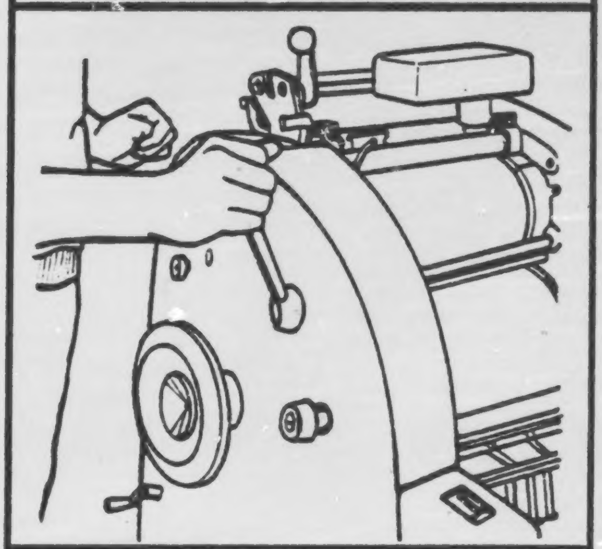


JOB STEPS

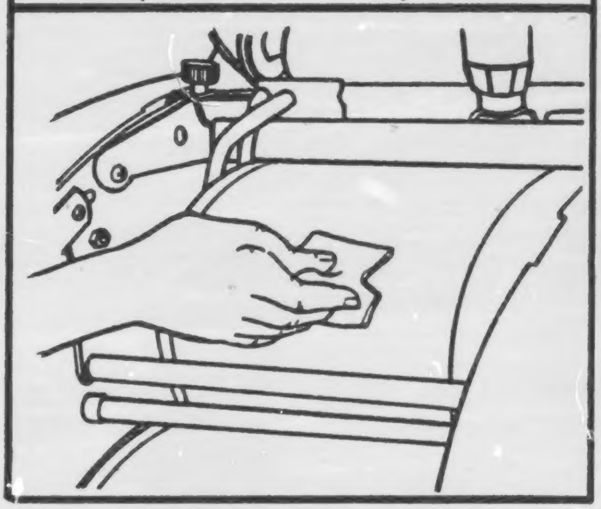
8. PUT THE ELECTROSTATIC MASTER ON THE PRESS (IN THE STRAIGHT-EDGE CLAMP). →



9. START THE PRESS RIGHT AWAY. THEN, DROP THE ROLLERS ONTO THE MASTER WITHIN 2 TURNS OF THE PLATE CYLINDER. LET THE TAIL FLOP BECAUSE IT IS TOO SHORT TO PUT INTO THE TAIL CLAMP. →

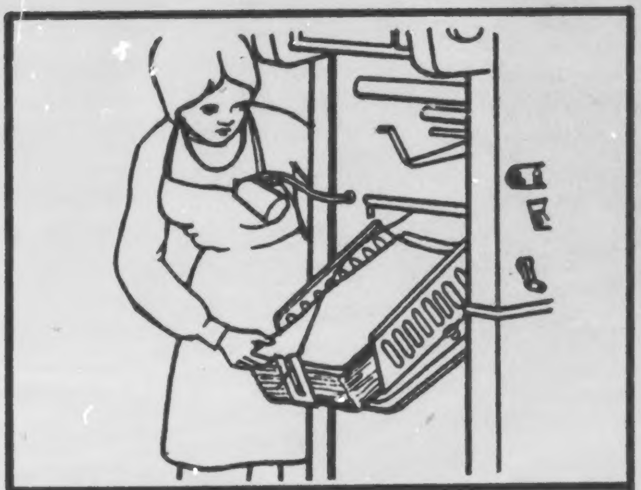


10. GET THE POSITION SET UP AS FAST AS YOU CAN. IF THE MASTER DRIES OUT FOR 30 SECONDS OR MORE, RE-ETCH IT WITH ELECTROSTATIC SOLUTION WHILE ON THE PRESS. →

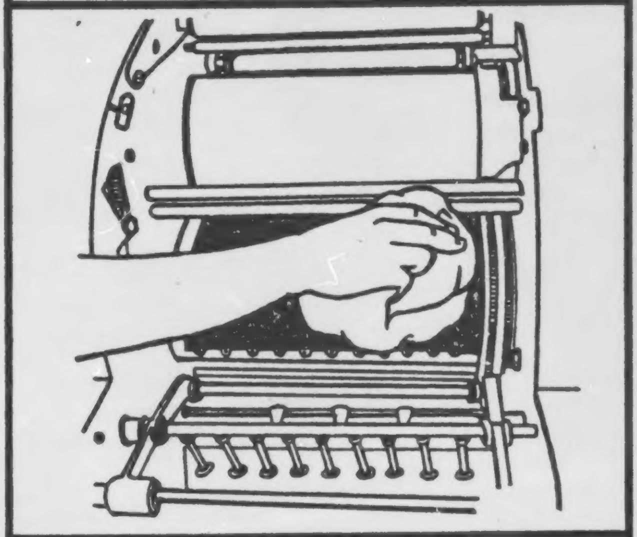


JOB STEPS

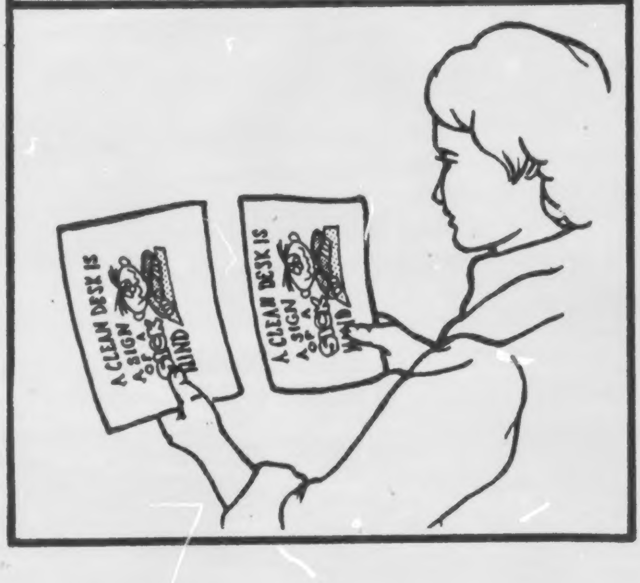
11. PRINT 100 COPIES FROM THE ELECTROSTATIC MASTER. WATCH THE IMAGE AND BACKGROUND AREAS AND LOOK FOR TONING OR SCUMMING. IF NECESSARY, ADD JUST THE WATER OR INK. ALSO, WATCH THE LEAD EDGE OF THE MASTER FOR TONING.



12. WHEN YOU ARE DONE PRINTING THE 100 COPIES, TAKE THE MASTER OFF THE PRESS AND CLEAN THE BLANKET.



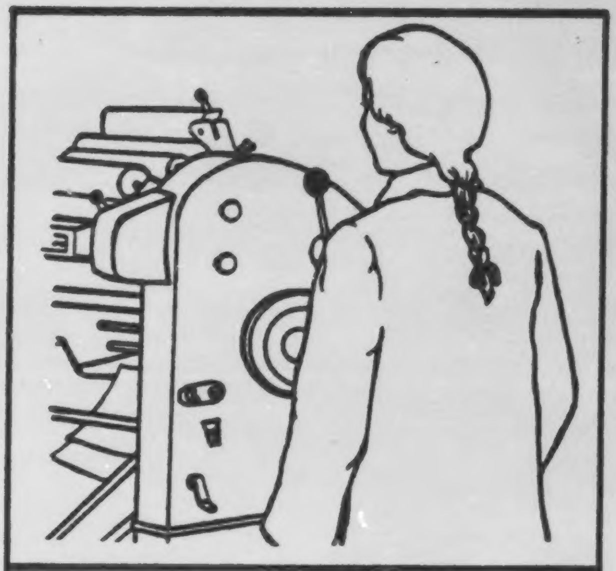
13. CHECK YOUR WORK UNDER A BRIGHT WHITE LIGHT. LOOK AT PAGES FROM THE BEGINNING, MIDDLE AND END OF THE RUN. CHECK FOR TONING, TRACKING AND FOR A SOLID BLACK IMAGE (IT IS DIFFICULT TO GET A SOLID BLACK IMAGE FROM AN ELECTROSTATIC PLATE. COMPARE THE PRINTED PAGES TO THE MASTER).


A CLEAN DESK IS A SIGN OF A SICK MIND
A CLEAN DESK IS A SIGN OF A SICK MIND

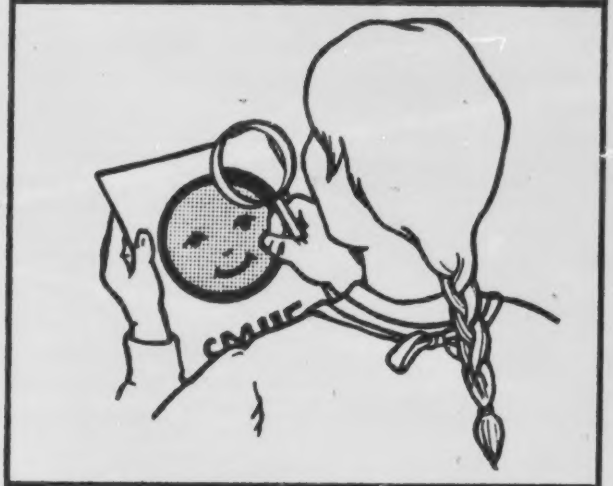
JOB STEPS

14. REPEAT JOB STEPS 5 - 13 FOR THE SECOND ELECTROSTATIC MASTER, PRINTING ANOTHER 100 COPIES.

15. REPEAT JOB STEPS 5 - 13 FOR THE THIRD ELECTROSTATIC MASTER. THIS TIME, TURN THE WATER SETTING OFF AS SOON AS YOU START PRINTING. RUN 50 COPIES. TURN THE WATER BACK UP TO NORMAL AND PRINT 150 MORE SHEETS OF PAPER.



16. USE A MAGNIFYING GLASS AND CHECK YOUR PRINTING CAREFULLY. YOU SHOULD SEE SOME TONING (FROM LACK OF WATER). NOTICE HOW THE LAST AND FIRST SHEETS DIFFER.

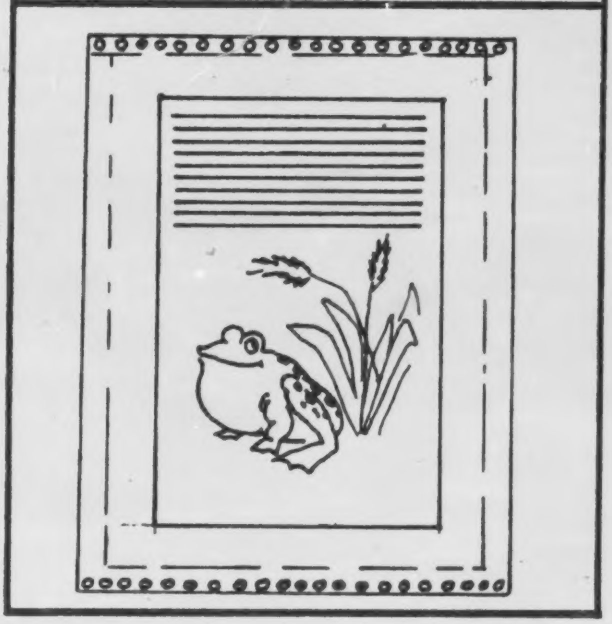


17. GET A DIRECT IMAGE PAPER MASTER. IF YOU HAVE DONE MOD 1401 12 008, (MAKING DIRECT IMAGE PAPER MASTERS) MAKE A PAPER MASTER. IF NOT, ASK YOUR INSTRUCTOR TO HELP YOU. MAKE THE MASTER LIKE THIS:

A-USE A LARGE, BOLD, PERMANENT BLACK MARKER AND DRAW A 7 1/2" X 10" BOX INSIDE THE 8 1/2" X 11" GUIDELINES ON THE MASTER. CENTER THE BOX.

B-USE A TYPEWRITER WITH THE RIGHT RIBBON AND TYPE AT LEAST 10 LINES INSIDE THE BOX.

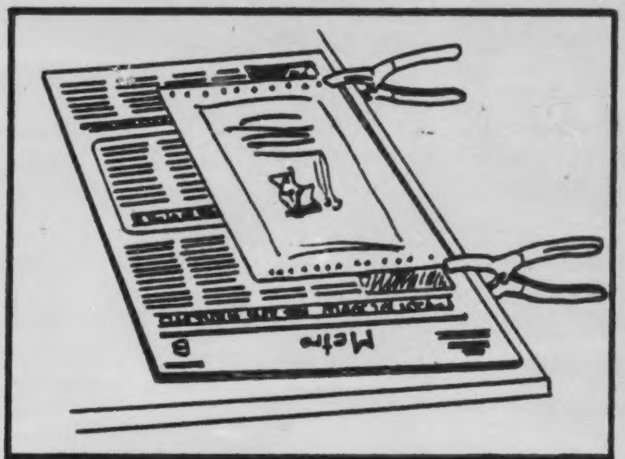
C-DRAW SOMETHING WITH A REPRODUCING PEN.



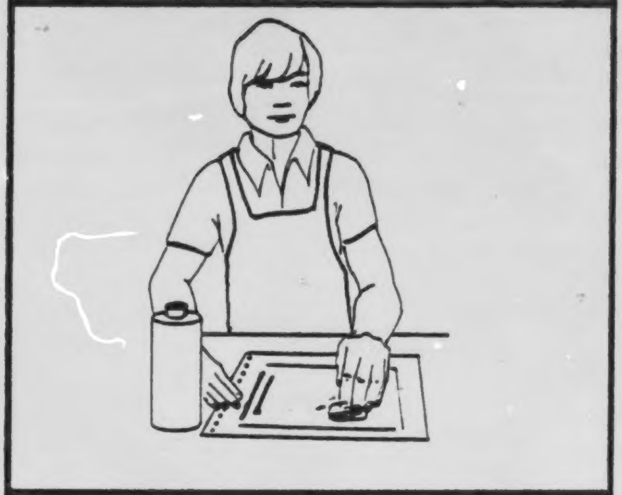
JOB STEPS

18. PUT THE DIRECT IMAGE PAPER MASTER ON THE NEWSPAPER YOU USED BEFORE.

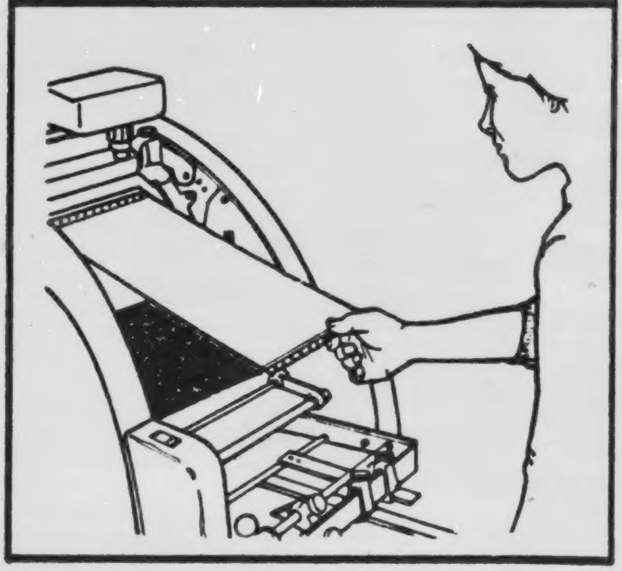
19. CLAMP DOWN THE NEWSPAPER AND THE PLATE TO THE TABLE. BE SURE THE CLAMPS ARE ON THE ENDS BY THE PIN HOLES.



20. USE PAPER PLATE ETCH ON A 1/4 FOLDED COTTON PAD AND ETCH THE PLATE IN 1 DIRECTION. THEN, ETCH IT AGAIN IN A DIFFERENT DIRECTION.

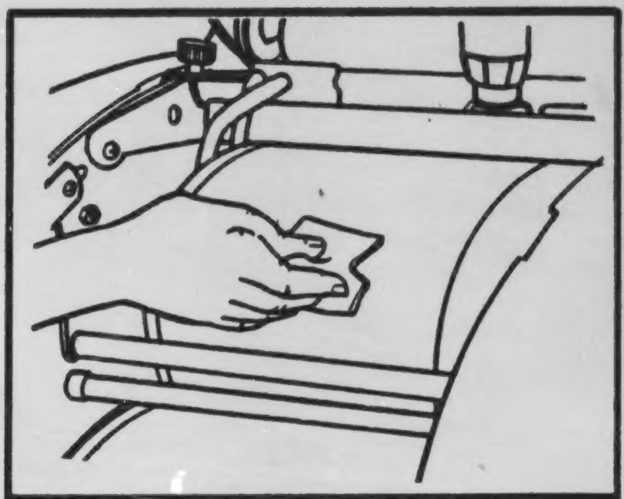


21. PUT THE PAPER PLATE ON THE PRESS THE SAME WAY AS YOU DO A METAL PLATE.



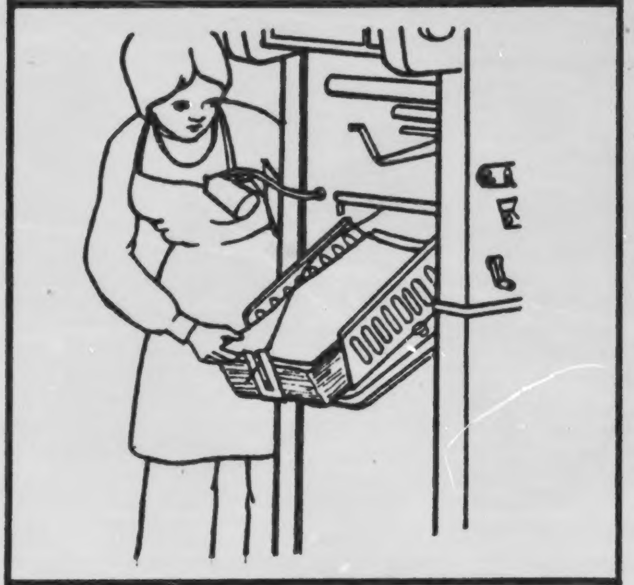
JOB STEPS

22. START THE PRESS RIGHT AWAY. IF THE PLATE DRIES OUT IN MORE THAN 30 SECONDS, RE-WET IT WITH FOUNTAIN SOLUTION. →



23. QUICKLY CENTER THE 7 1/2" X 10" IMAGE AREA BOX ON THE PAPER SO THE PLATE DOES NOT DRY OUT.

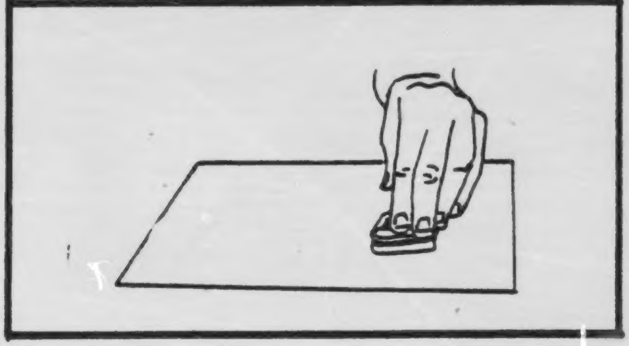
→



24. PRINT 100 COPIES.

25. WHEN YOU ARE DONE PRINTING THE 100 COPIES, TAKE THE PLATE OFF THE PRESS AND CLEAN THE BLANKET.

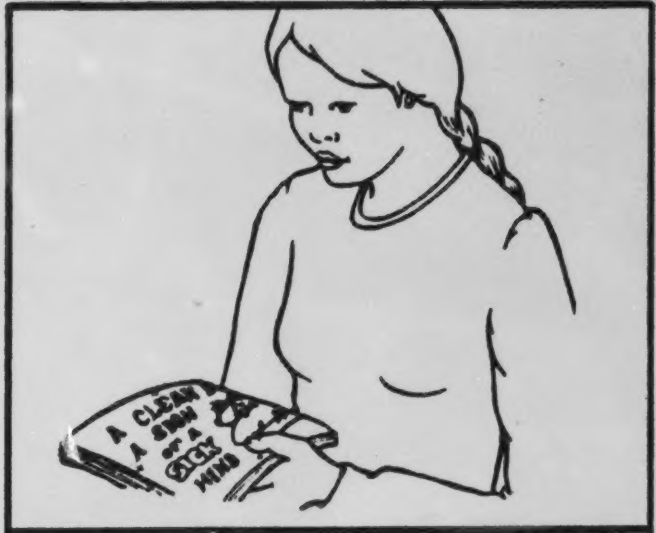
26. CLEAN THE MASTER WITH CLEANER-CONDITIONER. GUM IT WITH PAPER PLATE GUM TO CLEAN IT. →



JOB STEPS

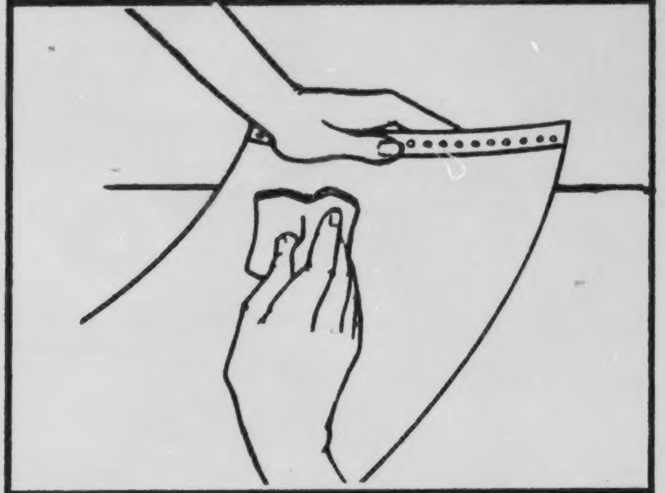
27. CHECK YOUR JOB (LIKE YOU DID IN JOB STEP 13). THE SOLID AREAS SHOULD BE DARK AND THE LINES SHOULD BE UNIFORM. THE TYPING SHOULD BE SHARP AND CLEAN AND THE BACKGROUND SHOULD BE WHITE, WITHOUT SCUM OR TONING.

→



28. USE PAPER PLATE ETCH TO ETCH THE MASTER YOU JUST PRINTED. THIS TAKES THE GUM OFF THE PLATE.

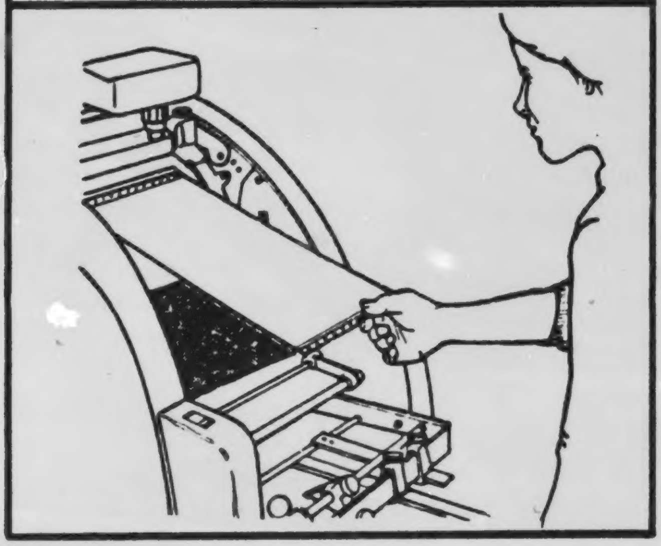
→



29. PUT THE PLATE BACK ON THE PRESS.

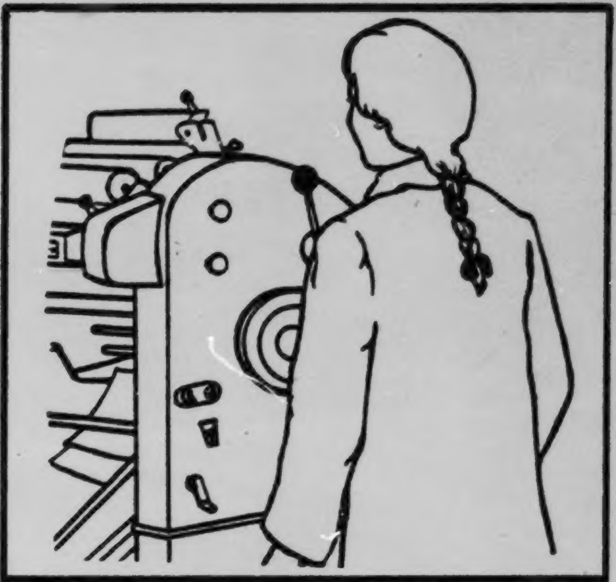
30. RUN THE PRESS. RAISE THE WATER SETTING TO TWICE WHAT IS NORMAL SO THE IMAGE WILL WASH OUT FOR 50 COPIES.

→



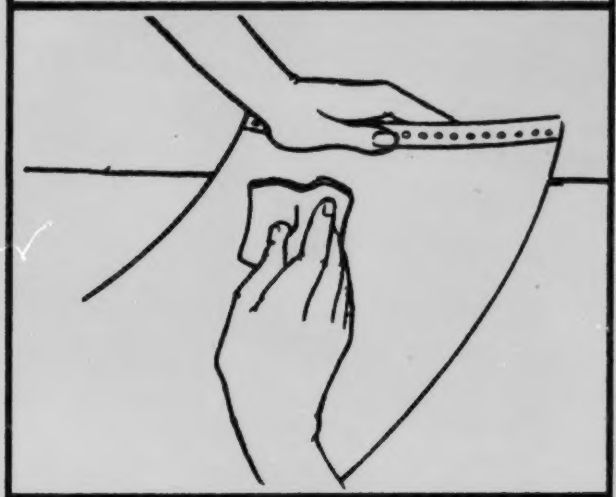
JOB STEPS

31. AFTER 50 COPIES, TURN THE WATER OFF FOR THE NEXT 50 COPIES, THEN BACK TO NORMAL FOR THE NEXT 200 COPIES. →

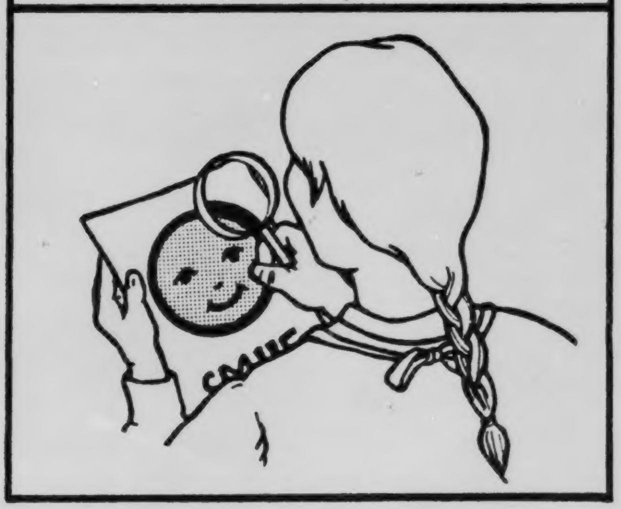


32. WHEN YOU ARE DONE PRINTING, TAKE THE PLATE OFF THE PRESS.

33. USE THE CLEANER-CONDITIONER AND THE PAPER PLATE GUM ON THE PLATE. →

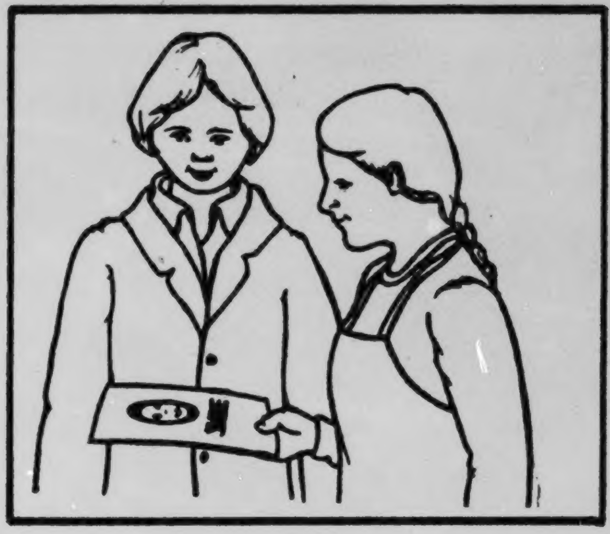


34. CHECK YOUR WORK UNDER THE BRIGHT WHITE LIGHT. LOOK AT PRINTING RESULTS OF HAVING TURNED THE WATER UP AND DOWN. USE A MAGNIFYING GLASS TO COMPARE THE IMAGES. →

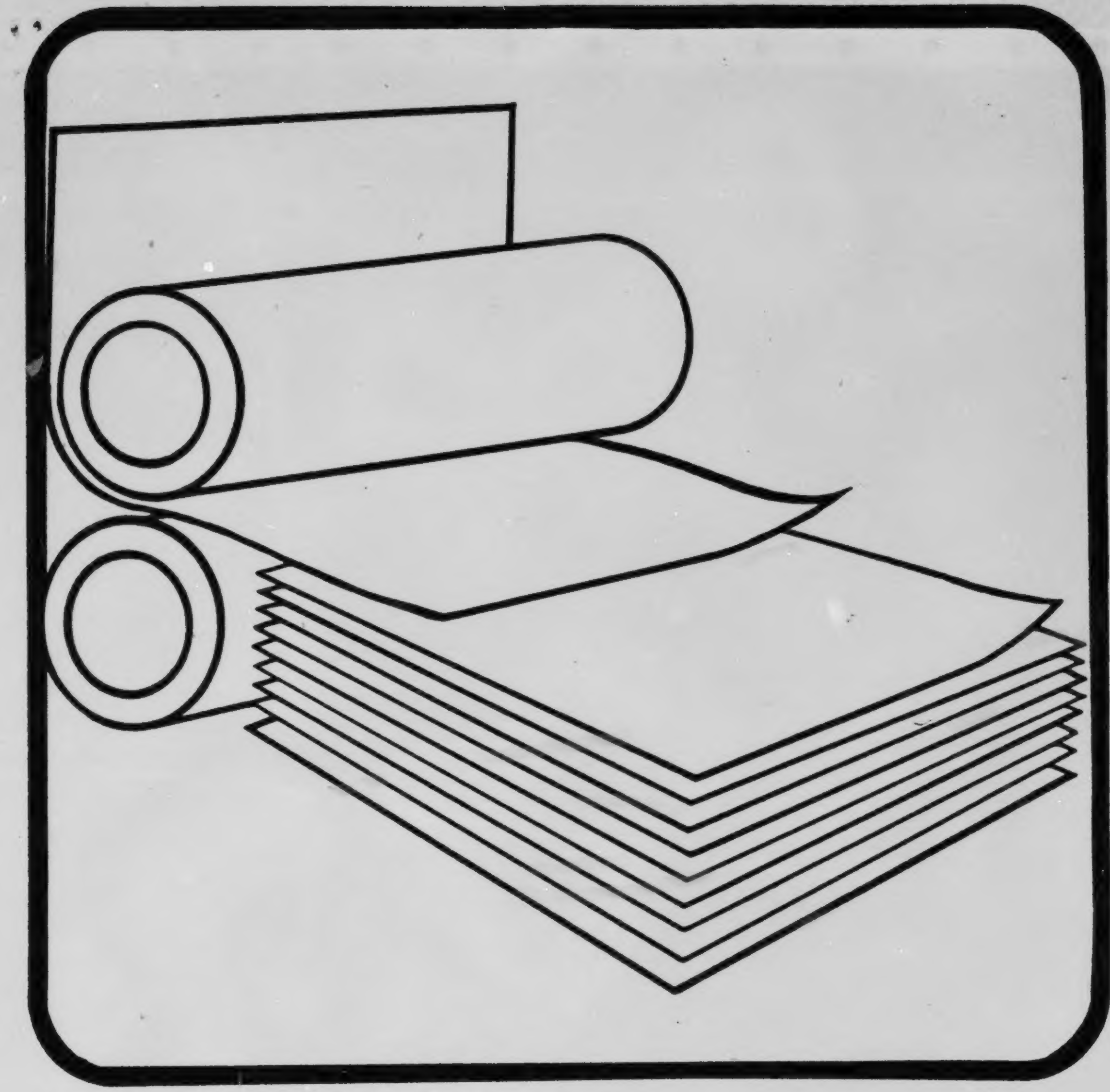


JOB STEPS

35. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK. ASK HOW TO CHECK THE INK BY THE "SMEAR METHOD". POINT OUT MISTAKES AND DEFECTS. →



36. NOW YOU KNOW HOW TO PRINT ELECTROSTATIC AND DIRECT IMAGE PAPER MASTERS ON THE OFFSET PRESS.



graphics

unit: PRESSWORK

capital area career center

1401 13 211
module: 1401 13 211 3 **date:** APRIL 1977 **level:** II

skill title: HOW TO CLEAN AN A.B. DICK OFFSET DUPLICATOR

developed & written by: DWIGHT SMITH AND GLEN PETTIT

visuals by: SANDRA STARNAMAN

WORD GUIDE

CLEAN-UP MAT - A HEAVY PAPER THAT COMES PUNCHED LIKE A PRINTING PLATE AND IS USED TO CLEAN UP A PRESS.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO CLEAN AN A.B. DICK OFFSET PRESS.

AND IN ORDER TO DO THIS YOU WILL NEED:

AN A.B. DICK OFFSET PRESS

CLEAN-UP MATS

RAGS

CLEANING SOLUTION

NEWSPAPERS

WE WILL KNOW THAT YOU CAN DO IT WHEN:

1. YOU HAVE CLEANED THE FOLLOWING PARTS OF AN A.B. DICK OFFSET PRESS:
    - A. ALL UNIT ROLLERS
    - B. THE BLANKET CYLINDERS
    - C. THE PLATE CYLINDER
    - D. THE PRESS CASE
    - E. THE RECEIVING END OF PRESS
2. YOU HAVE CLEANED THE PRESS WELL ENOUGH SO THAT WHEN YOU PRINT ANOTHER COLOR, THE FIRST COLOR WILL NOT SHOW UP.
3. YOU HAVE CLEANED THE WORK AREA MAKING SURE YOU'VE LEFT NO PAPERS, CLEANING MATERIALS, OR RAGS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

WHY DO YOU NEED TO KNOW HOW TO OPERATE AN OFFSET PRESS?

AS A PRINTER YOU OFTEN HAVE TO DO THIS. YOU WILL MOST LIKELY NEED TO CLEAN A PRESS 4 OR 5 TIMES EACH DAY. IN A PRINT SHOP, THERE ARE DIFFERENT JOBS THAT REQUIRE DIFFERENT INKS. SOME INKS DO NOT MIX WITH OTHER INKS AND OFTEN, COLOR CHANGES REQUIRE PRESS CLEANING. IT IS IMPORTANT THAT YOU LEARN HOW TO CLEAN A PRESS QUICKLY AND COMPLETELY.

FIFTEEN MINUTES IS AN AVERAGE TIME FOR CLEANING A PRESS. YOUR FIRST TIME MIGHT RUN CLOSER TO HALF AN HOUR. WHEN YOU CLEAN FOR YELLOW IN THE 3 AND 4-COLOR MODS, THIS MIGHT TAKE YOU ONE HOUR.

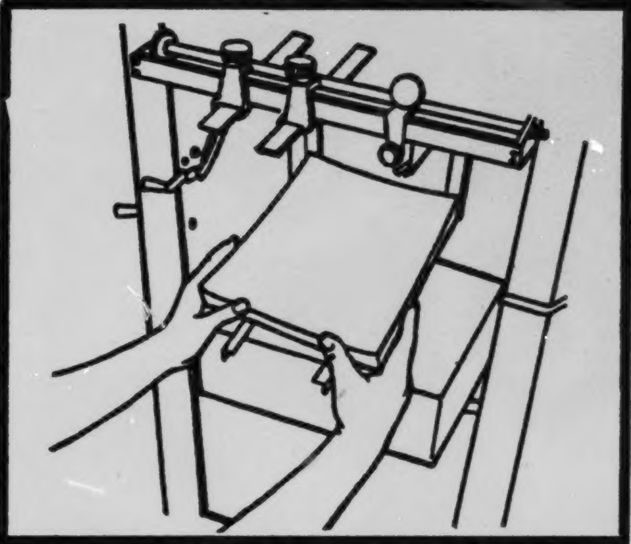
LARGE PRESSES HAVE AUTOMATIC CLEAN-UP ATTACHMENTS. THESE ARE QUICK, BUT THEY DON'T CLEAN AS WELL AS THE HAND CLEANING METHOD.

YOU WILL USE CLEAN-UP MATS FOR CLEANING THE PRESS. YOU PUT PAPER MATS ON THE PRESS LIKE A PLATE. THE INK ROLLERS ARE CLEANED AND THE INK IS TAKEN UP BY THESE MATS. THE MATS COST ABOUT 20¢ EACH. YOU WILL USE ABOUT 6 FOR EACH CLEANING. YOU CAN USE THE MATS ON BOTH SIDES UNTIL THEY ARE QUITE DIRTY AND WON'T TAKE UP ANY MORE INK. YOU WILL ALSO USE ABOUT ONE-HALF LITER OF BLANKET WASH. THE BLANKET WASH COSTS ABOUT $1 PER LITER. PLEASE DO NOT WASTE ANY CLEAN-UP MATERIALS.

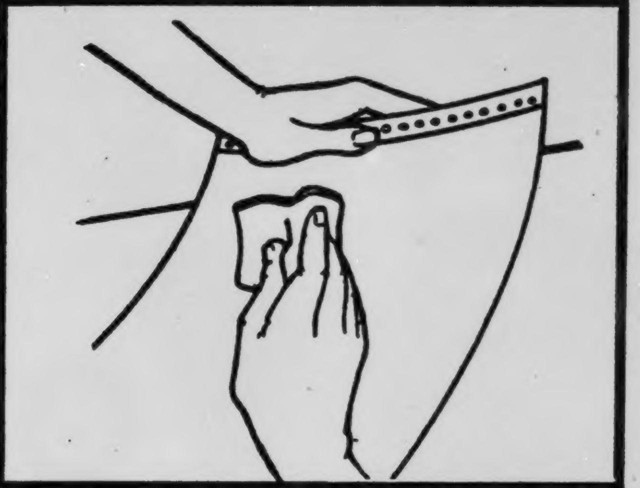
JOB STEPS

1. PREPARE TO CLEAN THE PRESS.

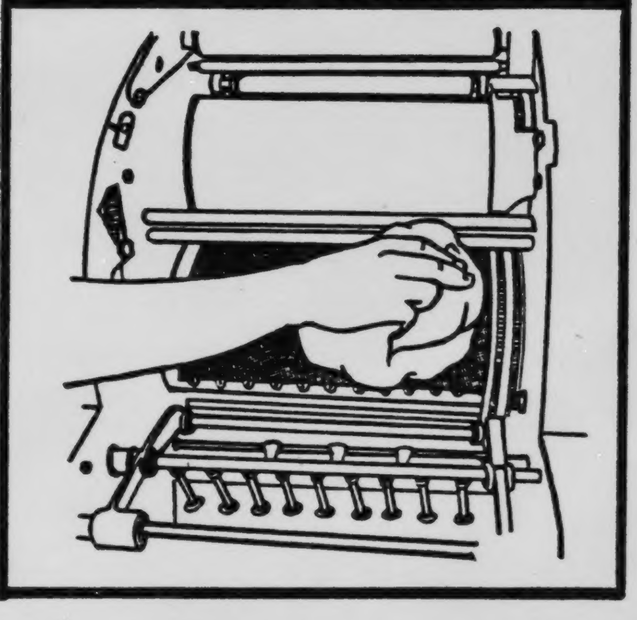
   A. REMOVE THE PAPER FROM THE FEEDER AND DELIVERY ENDS OF THE PRESS.



   B. REMOVE GUM AND CLEAN THE PLATE. FILE IT IN THE RIGHT SPOT.

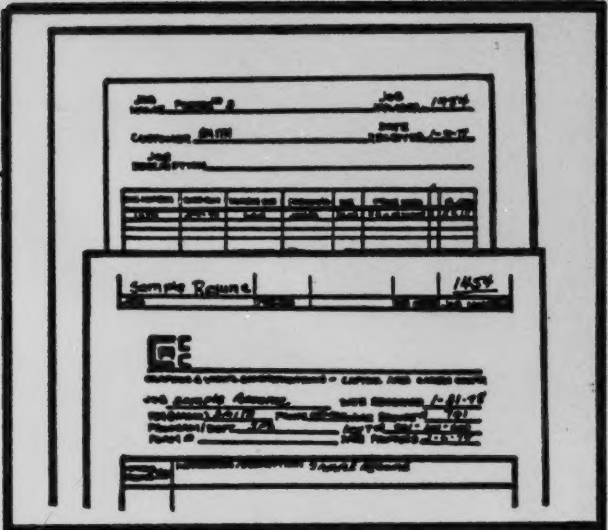


   C. CLEAN THE BLANKET

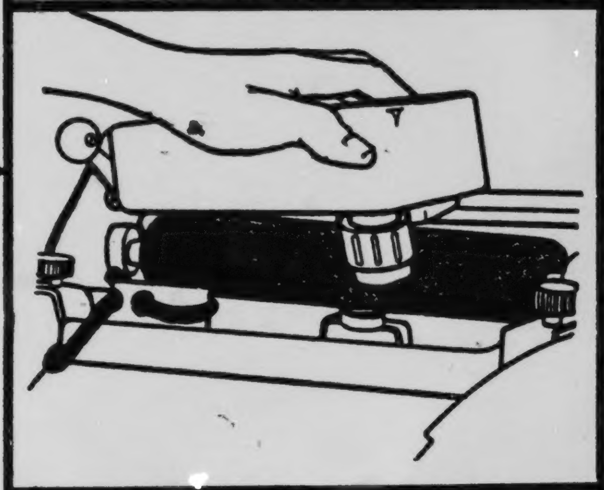


JOB STEPS

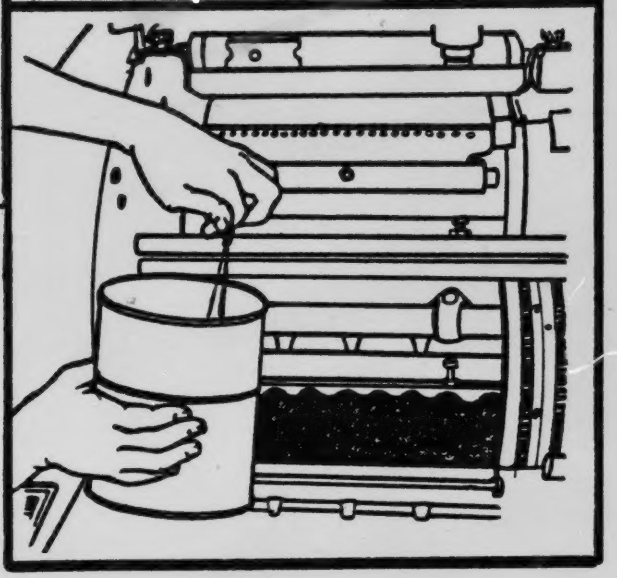
D. RECORD THE PRESS RUN ON THE JOB ENVELOPE AND THE PLATE ENVELOPE.



2. REMOVE THE FOUNTAIN SOLUTION BOTTLE.

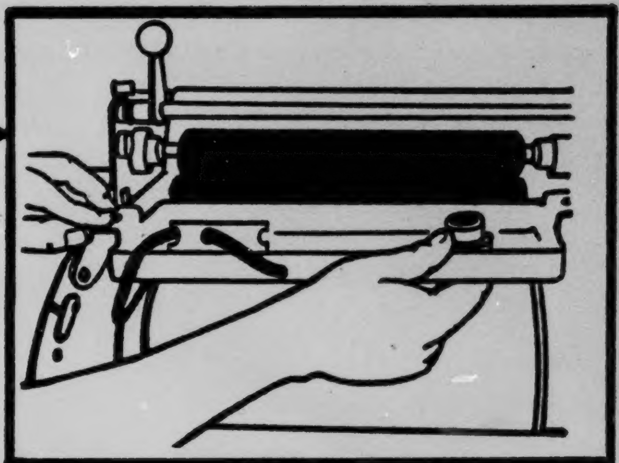


3. DRAIN THE FOUNTAIN SOLUTION IN A CONTAINER AND POUR IT DOWN THE DRAIN.



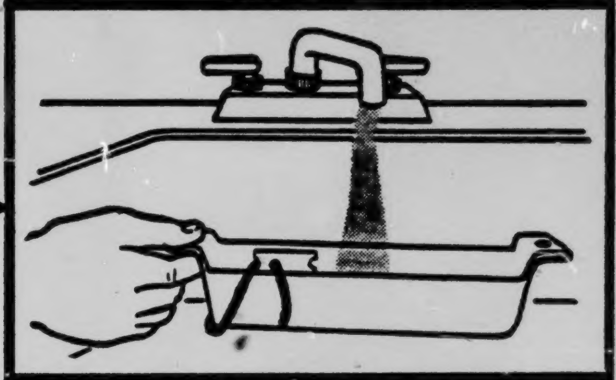
JOB STEPS

4. CAREFULLY REMOVE THE FOUNTAIN TRAY.



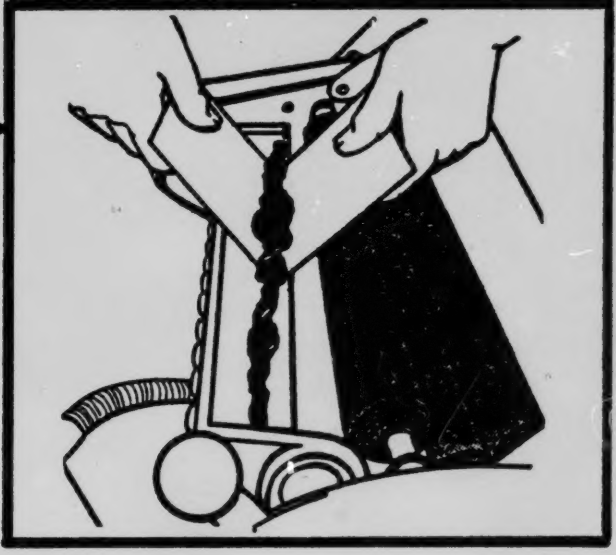
CAUTION: IT MIGHT HAVE SOME LIQUID IN IT, SO DO NOT TIP IT.

5. RINSE THE TRAY IN THE SINK. DRY IT WITH A CLEAN RAG.



6. USE A HEAVY CARD STOCK TO SCOOP THE INK OUT ON THE INK FOUNTAIN. USE POST CARD SIZE STOCK.

   NOTE: TURN THE FOUNTAIN ROLLER SLIGHTLY.



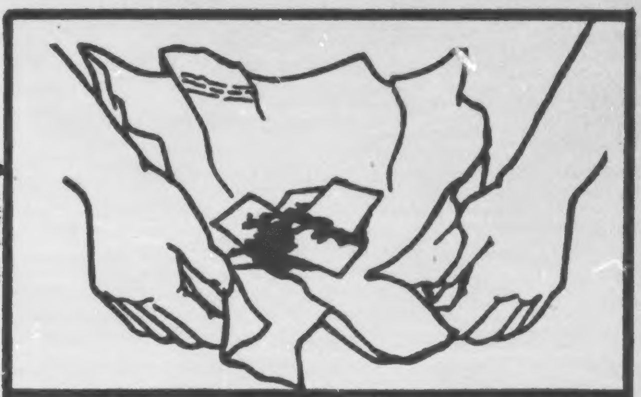
WORD GUIDE

COUNTER-CLOCKWISE - TO THE LEFT.

CLOCKWISE - TO THE RIGHT.

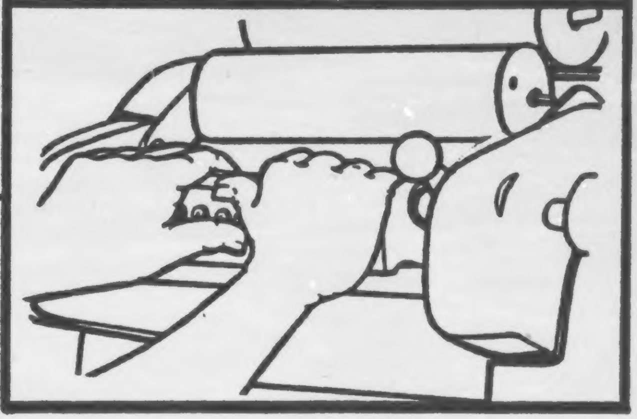
JOB STEPS

7. WRAP THE CARDS AND INK IN PAPER AND THROW THEM OUT IN A PLASTIC-LINED TRASH CAN.

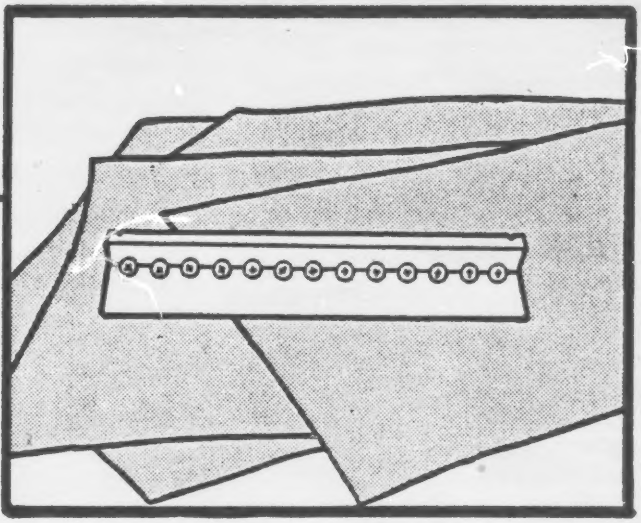


8. REPEAT JOB STEP 7 UNTIL YOU'VE USED NEARLY ALL THE INK IN THE INK FOUNTAIN.

9. GRASP THE INK FOUNTAIN AT BOTH ENDS, TURN IT UP AND REMOVE IT.



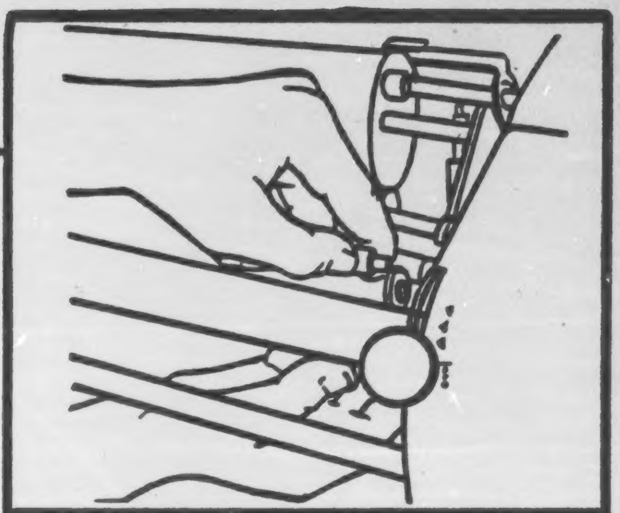
10. PUT THE INK FOUNTAIN ON 5 OR 6 LAYERS OF NEWSPAPERS.



JOB STEPS

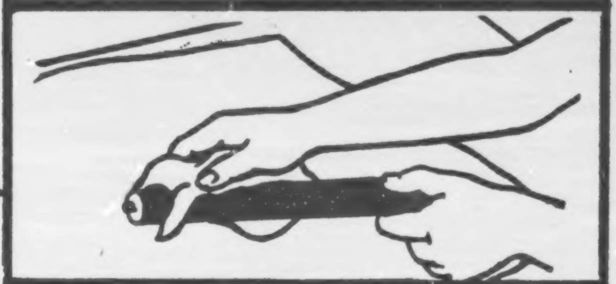
11. REMOVE THE INK DUCTOR ROLLER. THEN, PUSH THE SPRING LOADED BRACKETS OUT FROM THE CENTER, TOWARDS THE SIDE FRAME.

12. PUT THE DUCTOR ROLLER ON THE NEWSPAPERS SO THAT IT WILL NOT ROLL OFF.

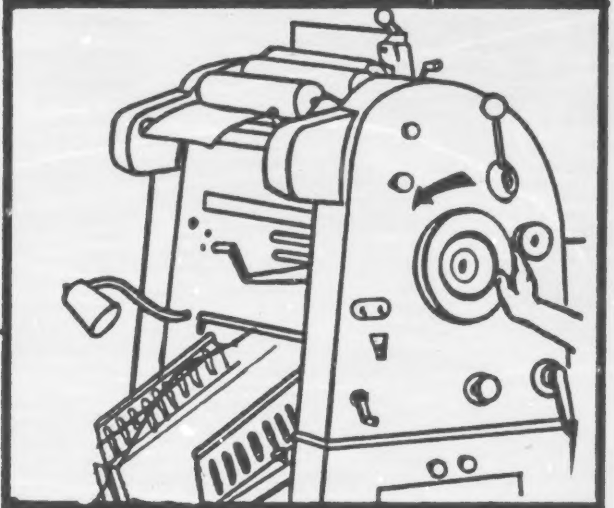


13. PUT SOME BLANKET WASH, FIRST ON A HALF-DIRTY RAG AND THEN ON THE ROLLER. CLEAN THE DUCTOR-ROLLER WITH THE DAMPENED RAG.

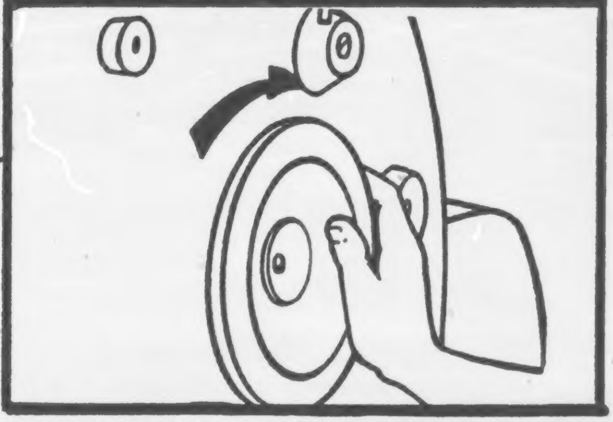
14. REPEAT JOB STEP 13 WITH A CLEAN RAG.



15. PUT A PIECE OF SCRAP PAPER INTO THE INK ROLLERS. TURN THE HANDWHEEL COUNTER-CLOCKWISE UNTIL THE PAPER IS NEARLY ALL THE WAY THROUGH THE ROLLERS.



16. TURN THE HANDWHEEL CLOCKWISE UNTIL THE PAPER COMES OUT.



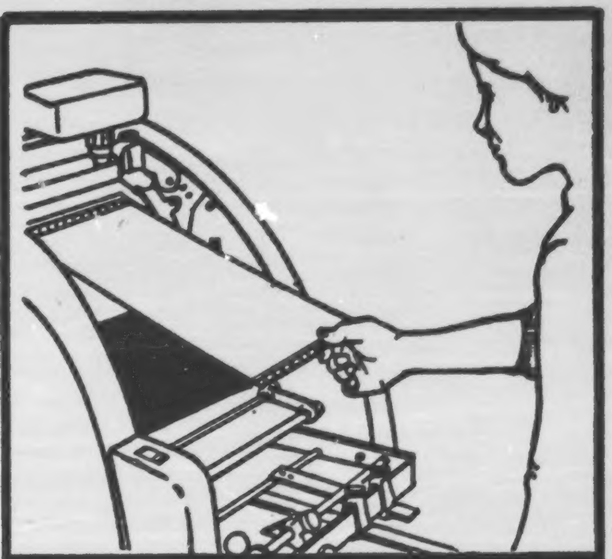
WORD GUIDE

OSCILLATOR - SOMETHING WHICH MOVES BACK AND FORTH.

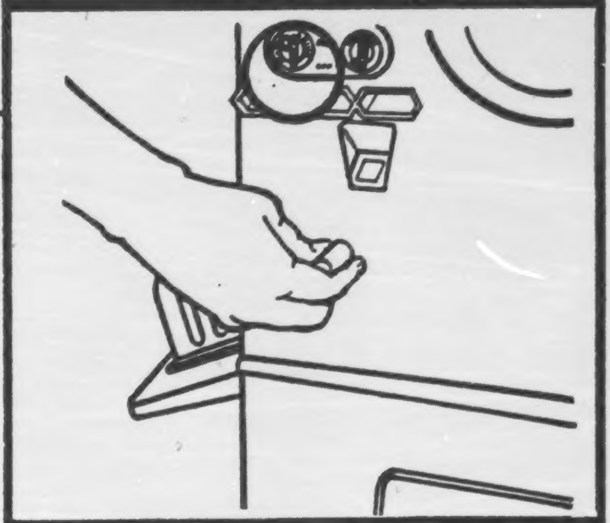
JOB STEPS

17. REPEAT JOB STEP 16, FOUR TIMES.

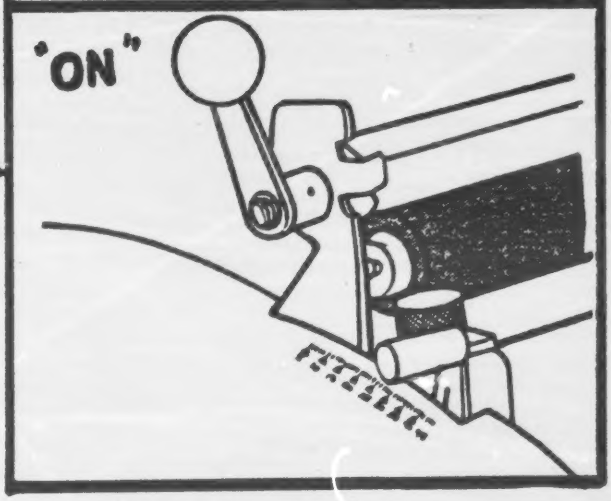
18. GET A DIRTY, CLEAN-UP MAT AND PUT IT ON THE PRESS LIKE A PLATE.



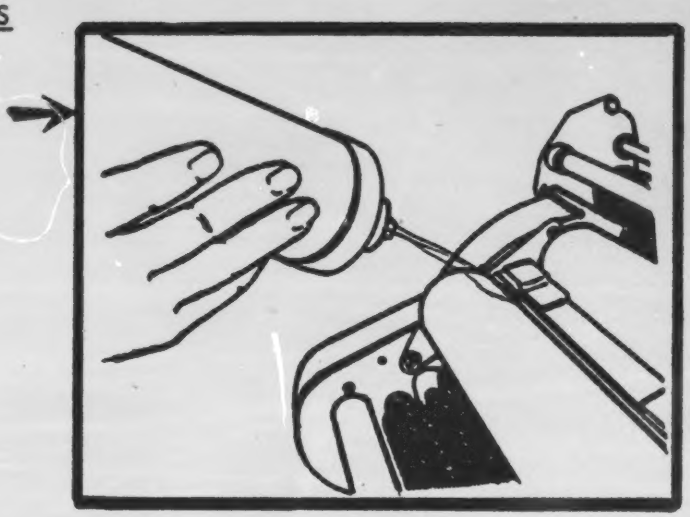
19. TURN ON THE MOTOR DRIVE. SET THE SPEED CONTROL TO "SLOW" ONLY WHILE THE PRESS MOTOR IS RUNNING.



20. TURN THE AQUAMATIC CONTROL ALL THE WAY "ON".

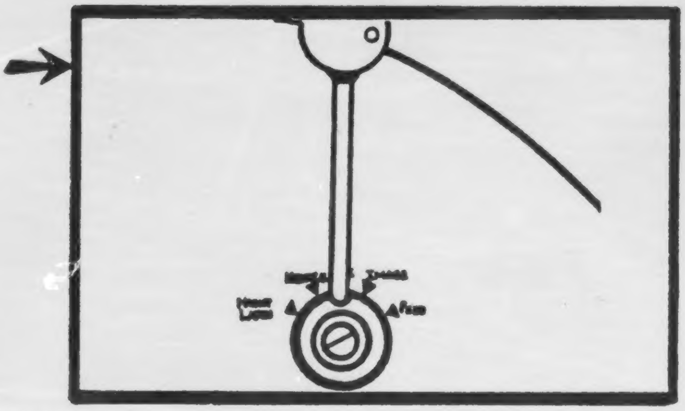


JOB STEPS



21. SQUIRT A SMALL AMOUNT OF BLANKET WASH ONTO HALF OF THE OSCILLATOR ROLLER.

> CAUTION: DO NOT USE SO MUCH THAT IT DRIPS INTO THE PRESS.

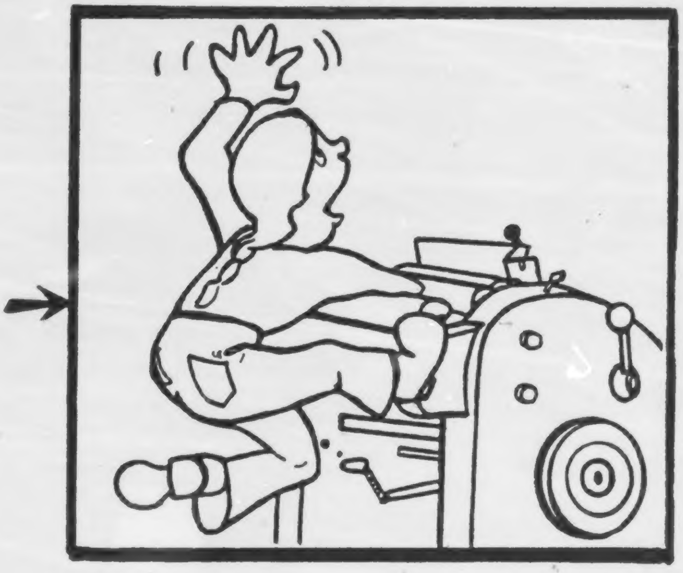


22. MOVE THE CONTROL LEVER TO "INK" SO THAT YOU INK THE CLEAN-UP MAT.

23. WHEN THE MAT SOAKS UP THE BLANKET WASH, SQUIRT SOME BLANKET WASH ONTO THE OTHER SIDE OF THE OSCILLATOR ROLLER.

24. WHEN THE CLEAN-UP MAT IS DIRTY, PUT A CLEAN ONE ON THE PRESS.

25. REPEAT JOB STEPS 19, 20, 21, 22, 23 AND 24 UNTIL ALL THE INK ROLLERS ARE CLEAN.

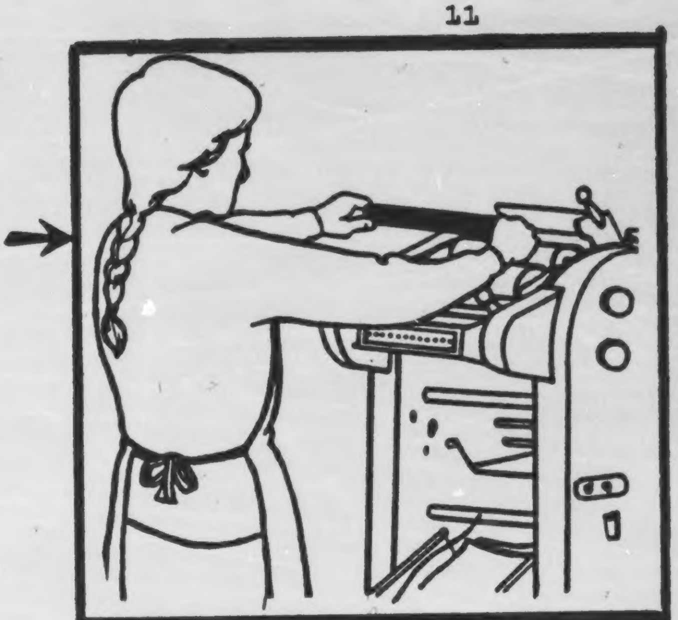


26. USE A CLEAN RAG TO CLEAN OFF ALL THE PAPER DUST FROM THE ROLLERS, USE THE HANDWHEEL TO TURN THE ROLLERS.

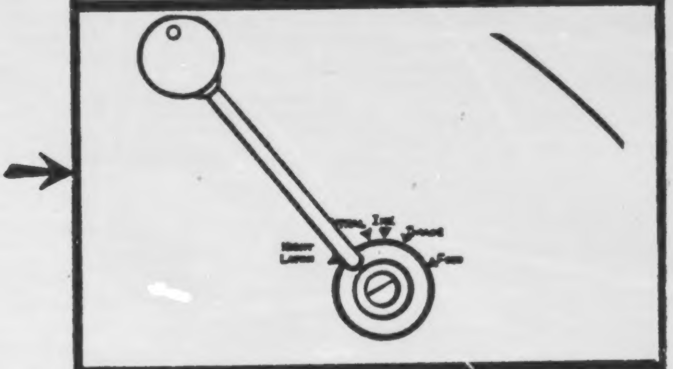
> CAUTION: BE CAREFUL TO KEEP RAGS AND FINGERS OUT OF THE GEARS AND ROLLERS.

27. CHECK THE ROLLER ENDS AND BE SURE THEY ARE CLEAN.

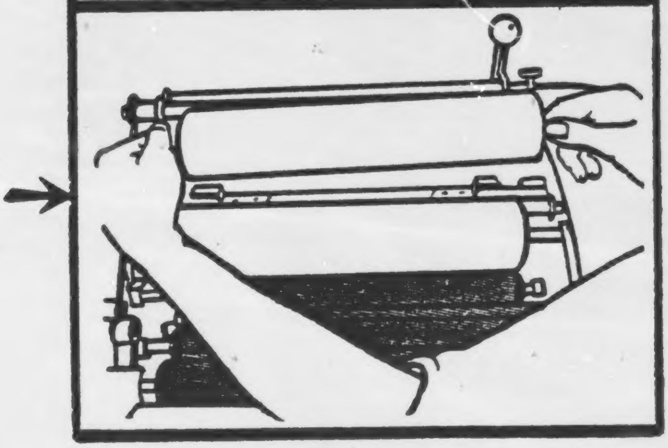
JOB STEPS



28. PUT THE INK DUCTOR ROLLER AND THE INK FOUNTAIN BACK INTO THE PRESS. IF YOU HAVE ANY QUESTIONS ABOUT THIS, ASK YOUR INSTRUCTOR.



29. MOVE THE CONTROL LEVER TO "NIGHT LATCH". THIS KEEPS THE ROLLERS FROM GETTING FLAT ON ONE SIDE.



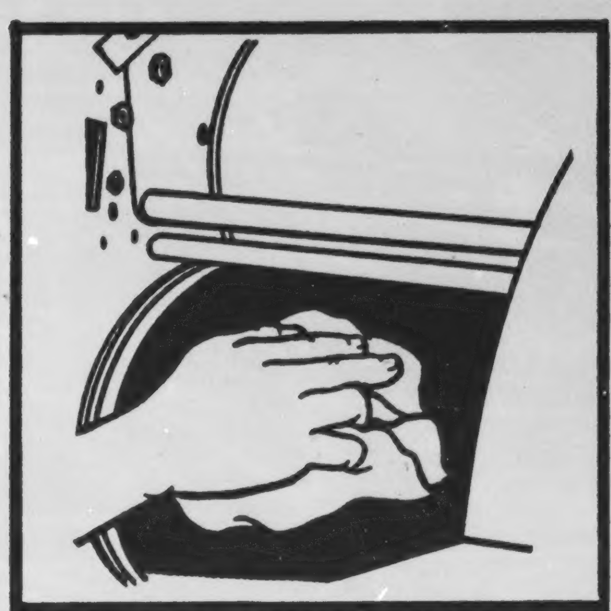
30. LIFT UP THE OSCILLATING INK ROLLERS.

31. TURN CONTROL KNOBS ON THE TWO INK-FORM-ROLLERS TO "OFF".

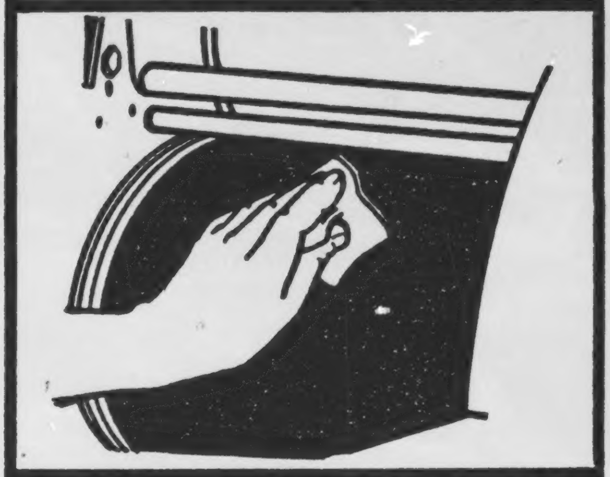
JOB STEPS

32. CLEAN THE BLANKET:

A. USE A RAG DAMPENED WITH BLANKET WASH. RUB THE BLANKET BACK AND FORTH. TURN THE HANDWHEEL TO GET ALL THE BLANKET.



B. USE A MOIST (NOT DRIPPING) SPONGE OR COTTON PAD TO COAT THE BLANKET WITH WATER.



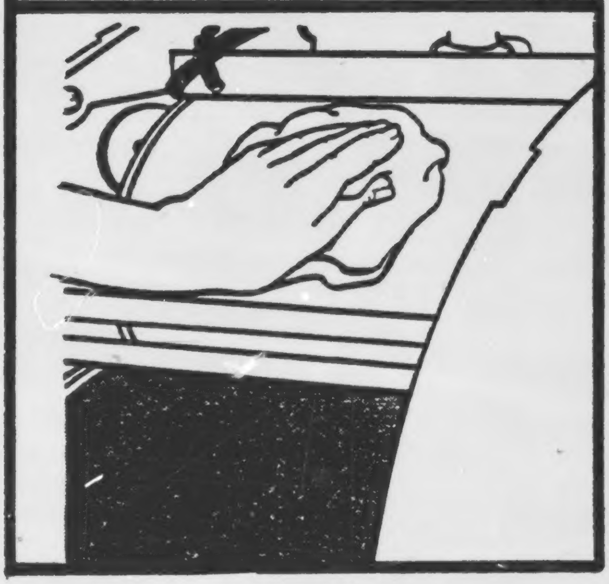
C. USE A DRY RAG TO WIPE OFF THE WATER.

D. CLEAN THE BLANKET WITH BLANKET WASH AGAIN.

E. REPEAT JOB STEPS 32 B AND 32 C.

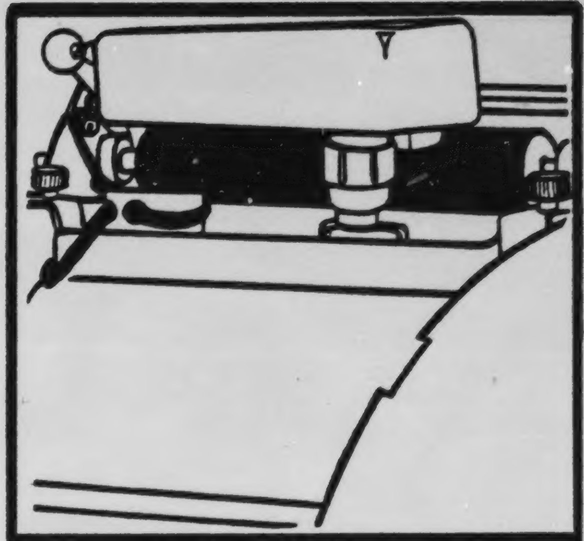
F. USE A RAG AND CLEAN THE BLANKET WITH BLANKET WASH AGAIN.

33. USE A RAG MOIST WITH BLANKET WASH AND CLEAN THE PLATE CYLINDER.



JOB STEPS

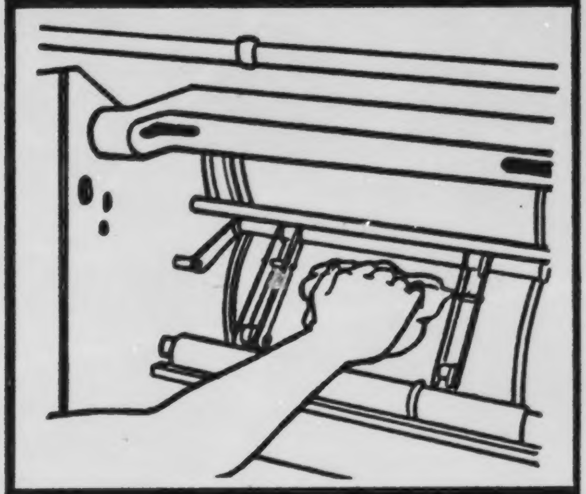
34. PUT THE WATER FOUNTAIN ON THE PRESS. BE SURE TO HOOK THE HOSE CORRECTLY.



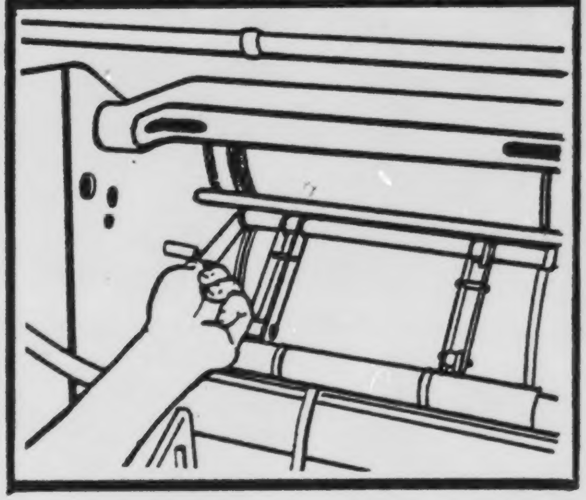
35. USE A RAG MOIST WITH BLANKET WASH AND CLEAN THE IMPRESSION CYLINDER.

36. USE A DRY RAG AND WIPE THE IMPRESSION CYLINDER DRY.

37. IF THE INK DID NOT ALL COME OFF THE IMPRESSION CYLINDER, TRY SOME CHROME CLEANER OR "GLASS WAX".



38. PUT THE EJECTOR SYSTEM BACK ON THE DELIVERY END OF THE PRESS.



39. THROW AWAY ALL THE PAPER YOU USED. PUT BACK THE USABLE CLEAN-UP MATS.

40. PUT THE CHEMICALS AWAY. CLEAN UP YOUR WORK AREA.

NOTE: HERE IS A HINT TO MAKE THE JOB EASIER THE NEXT TIME YOU DO IT.

A. FOLD A COTTON PAD IN HALF.

B. PUT 2 OR 3 DROPS OF OIL ON THE PAD.

JOB STEPS

C. WIPE THE PRESS AND FRAME WITH THE PAD. LEAVE A THIN FILM OF OIL.

INK CANNOT EASILY STICK TO THIS FILM SO IT MAKES CLEAN-UP A LITTLE EASIER.

GOOD WORK! YOU HAVE JUST CLEANED AN A.B. DICK OFFSET PRESS.

41. TAKE THE SELF-QUIZ ON THE NEXT PAGE. WHEN YOU ARE FINISHED, SHOW THE QUIZ AND THE PRESS TO YOUR INSTRUCTOR FOR CREDIT FOR THIS MOD.

ANSWERS TO SELF CHECK: 1. D, 2. D, 3. B, 4. C, 5. FALSE,
6. FALSE, 7. B, 8. A

PICK THE BEST ANSWER FOR EACH QUESTION. ANSWER ON A SEPARATE SHEET OF PAPER.

1. ROLLERS ARE CLEANED WITH__________.

A. ROLLER CLEANER
B. GUM
C. SOAP AND WATER
D. BLANKET WASH

2. OFFSET PRESSES SHOULD BE CLEANED EVERY __________.

A. YEAR
B. LEAP YEAR
C. TIME YOU FEEL LIKE IT
D. DAY

3. DURING CLEAN-UP, YOU PUT THE MATS ON THE __________.

A. BLANKET
B. PLATE CYLINDER
C. OSCILLATOR
D. FLOOR MAT

4. YOU REMOVE THE INK FROM THE INK FOUNTAIN WITH __________.

A. SHOVELS
B. VACUUM CLEANER
C. CARD STOCK
D. FOLDED WAX PAPER

5. CLEAN-UP MATS ARE TO BE USED ONCE AND THROWN AWAY.

TRUE OR FALSE

6. DURING CLEAN-UP YOU WILL USE 2 OR 3 CLEAN-UP MATS.

TRUE OR FALSE

7. WHEN FINISHED CLEANING THE PRESS, YOU ALWAYS LEAVE IT IN __________.

A. GEAR
B. NIGHT LATCH
C. IMPRESSION
D. PARK

8. THE SPEED CONTROL CAN BE CHANGED __________.

A. WHEN THE MOTOR IS RUNNING
B. WHEN THE MOTOR IS OFF
C. WHEN NEEDED
D. AT NIGHT

TURN BACK ONE PAGE FOR THE ANSWERS.

graphics

unit: PRESSWORK

capital area career center

1401 13 212
module: 1401 13 212 3 date: APRIL 1977 level: III

skill title: HOW TO CHECK AND ADJUST INK, DAMPNER, AND BLANKET CYLINDER PRESSURES

developed & written by: GLEN PETTIT

visuals by: SANDRA STARNAMAN

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO CHECK AND ADJUST INK, DAMPNER AND CYLINDER PRESSURES.

AND IN ORDER TO DO THIS YOU WILL NEED:

AN A.B. DICK DUPLICATOR

AN OLD PLATE

SCREWDRIVER

FILM STRIPS

OFFSET CHEMICALS

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN CHECK AND ADJUST THE INK FORM ROLLER PRESSURES TO EXACTLY A UNIFORM 3 MM ACROSS THE ENTIRE PLATE.
2. YOU CAN CHECK AND ADJUST THE DAMPNER ROLLER PRESSURE TO 5 MM.
3. YOU CAN ADJUST THE BLANKET TO IMPRESSION CYLINDER PRESSURE FOR THE CORRECT STOCK THICKNESS BEING RUN.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

MAINTAINING - KEEPING UP STEADILY.

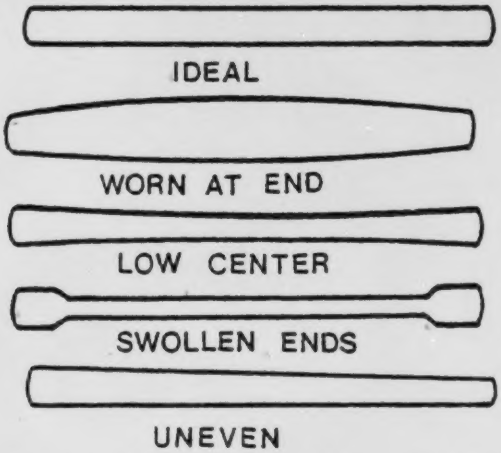
REDUCE - TO LESSEN, TO MAKE SMALLER.

INFORMATION

A VERY IMPORTANT PART OF OPERATING AN OFFSET PRESS IS MAINTAINING PROPER ROLLER PRESSURES. TEMPERATURE, HUMIDITY (THE AMOUNT OF WATER OR MOISTURE IN THE AIR), AGE, INK AND KIND OF PLATE USED ALL AFFECT INK FORM ROLLER PRESSURES. MOST SHOPS ARE CLIMATE-CONTROLLED 20°C TEMPERATURE AND 50% HUMIDITY, TO HELP REDUCE THE PROBLEMS CAUSED BY IMPROPER ROLLER PRESSURES.

ROLLER PRESSURES SHOULD BE CHECKED EVERY DAY ON EVERY OFFSET PRESS. AT THE END OF EACH DAY, THE ENTIRE INKING SYSTEM SHOULD BE WASHED. EVERY 250,000 IMPRESSIONS (OR ONCE A MONTH) THE OFFSET SHOULD BE COMPLETELY LUBRICATED, WITH THE SIDE PANELS REMOVED. INK ROLLER BEARINGS AND EJECTOR SYSTEMS MAY NEED DAILY OILING.

ROLLERS ARE USUALLY WORN OUT AFTER 3 OR 4 MILLION IMPRESSIONS AND MUST BE REPLACED. MOST OF THE TIME THE FORM ROLLERS WILL SWELL OR SHRINK JUST ONE OR TWO MILLIMETERS EVERY FEW DAYS BECAUSE OF THE HUMIDITY. CHECK FORM ROLLERS DAILY AND KEEP THEM UNIFORM AT EXACTLY 3 MM.



MANY DUPLICATING DEPARTMENTS WILL HAVE A SERVICE CONTRACT WITH THEIR PRESS DISTRIBUTOR. UNDER A SERVICE CONTRACT, A SERVICE-PERSON WILL CHECK OVER AND COMPLETELY LUBRICATE THE PRESS, ONCE A MONTH. IF ANY PARTS BREAK, YOU CAN CALL THE SERVICE-PERSON FOR REPAIR. A SERVICE CONTRACT FOR A SMALL DUPLICATOR MAY COST $1,000 OR MORE PER YEAR BUT IT INCLUDES ALL PARTS AND LABOR. OLDER OR MORE COMPLEX PRESSES WOULD COST MORE.

BE SURE YOU HAVE A LUBRICATION CHART AND INSTRUCTION BOOK FOR EACH MAJOR PIECE OF EQUIPMENT YOU OPERATE. WRITE THE MANUFACTURER AND THEY WILL SEND YOU THESE FOR YOUR MACHINE.

WORD GUIDE

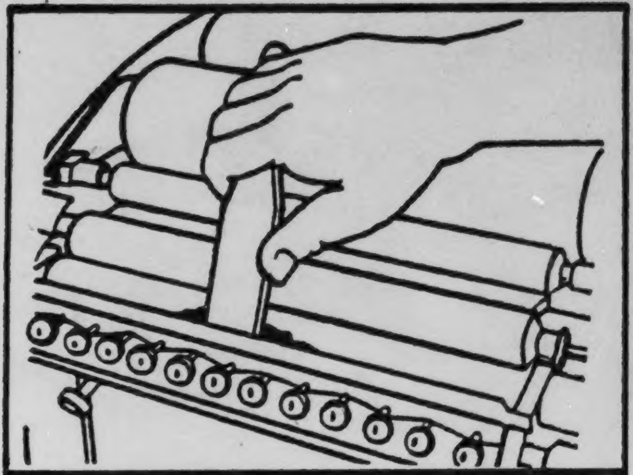
UNIFORM - EXACTLY THE SAME.

CLOCKWISE - TO THE RIGHT.

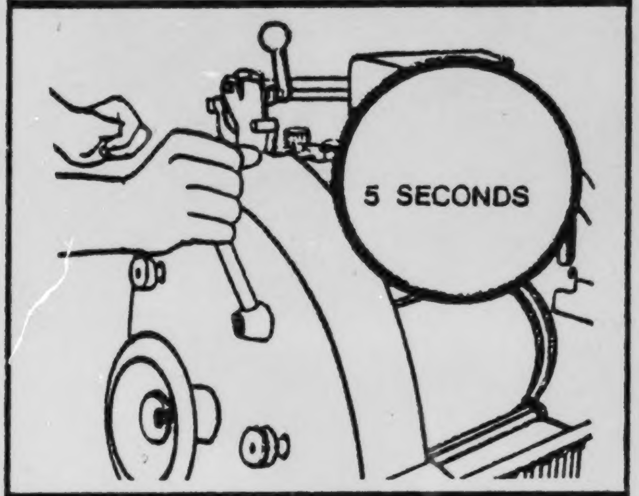
JOB STEPS

1. GET YOUR EQUIPMENT AND TAKE IT TO YOUR WORK AREA.

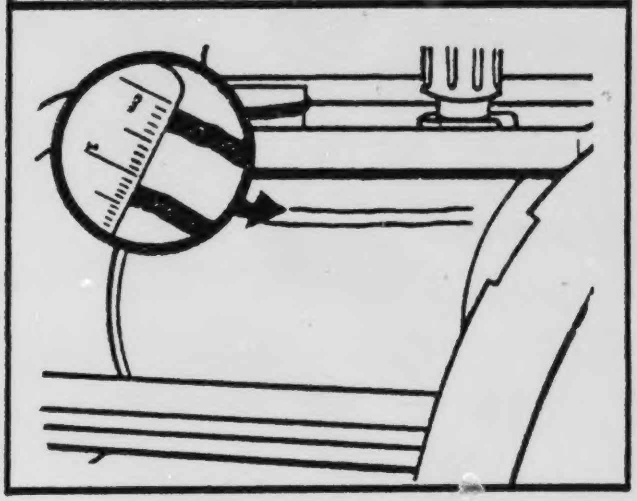
2. TO CHECK THE INK FORM ROLLER PRESSURES ON YOUR OFFSET, PLACE AN OLD PLATE ON THE PLATE CYLINDER AND INK UP THE PRESS. DO NOT WET THE PLATE; LEAVE IT DRY.



3. WITH THE PRESS OFF, GENTLY DROP THE INK FORM ROLLERS TO THE OLD PLATE. LEAVE THE FORM ROLLERS ON THE PLATE FOR 5 SECONDS AND THEN LIFT THEM.



4. TURN THE HANDWHEEL TO BRING THE PLATE AROUND FOR INSPECTION. YOU SHOULD SEE TWO UNIFORM, PARALLEL BANDS OF INK EXACTLY 3MM WIDE. USE A METRIC RULER TO MEASURE THEM.

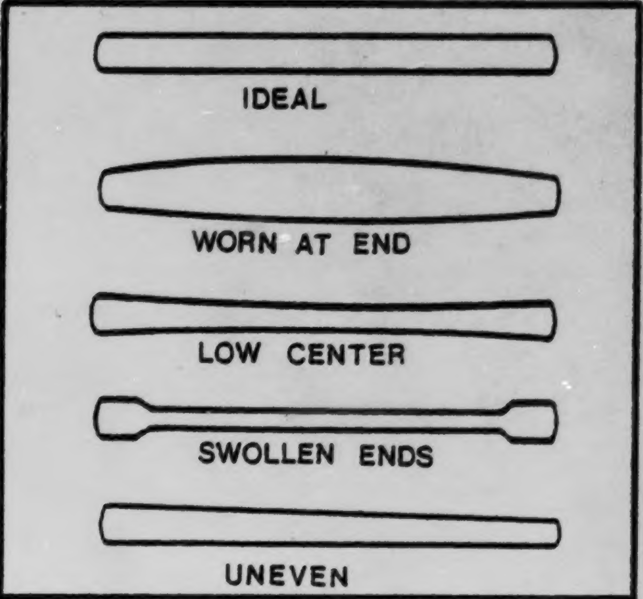


JOB STEPS

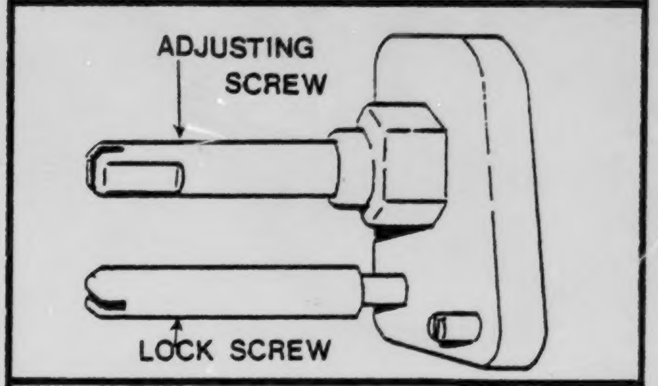
WORD GUIDE

COUNTER-CLOCKWISE - TO THE LEFT

5. IF THE BANDS OF INK LOOK HEAVY AT ONE END AND LIGHT OR NOT TOUCHING AT THE OTHER, THE PRESSURES MUST BE ADJUSTED. NEAR EACH FORM ROLLER KNOB THERE IS AN OPENING IN THE CASE AND TWO OPENINGS ON EACH SIDE OF THE PRESS. THERE ARE TWO SCREWS INSIDE EACH OPENING; ONE IS A LOCK SCREW, AND THE OTHER THE ADJUSTING SCREW. LOOK IN AN OPENING AND COMPARE THE TWO SCREWS.

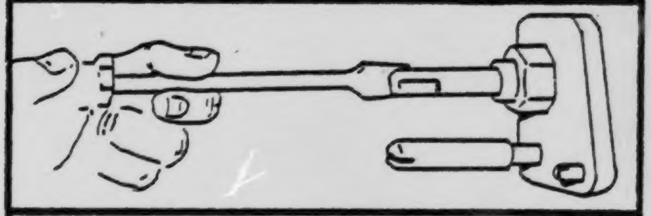


LOOK CAREFULLY: THE BOTTOM SCREW IS THE LOCK SCREW AND THE TOP SCREW IS THE ADJUSTING SCREW, AS SHOWN.

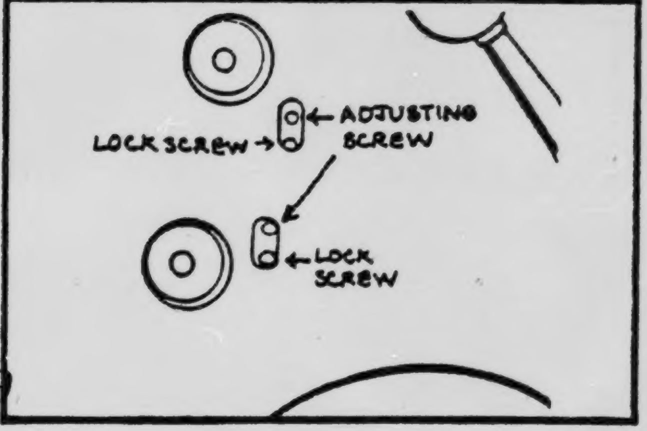


6. A. TO INCREASE THE PRESSURE OF THE INK FORM ROLLER, LOOSEN THE LOCK SCREW. THEN, TURN THE ADJUSTING SCREW CLOCKWISE ON THE OPERATOR SIDE OF THE PRESS.

B. TO INCREASE PRESSURE ON THE DRIVE SIDE OF THE PRESS, LOOSEN THE LOCK SCREW. THEN TURN THE ADJUSTING SCREW COUNTER-CLOCKWISE.



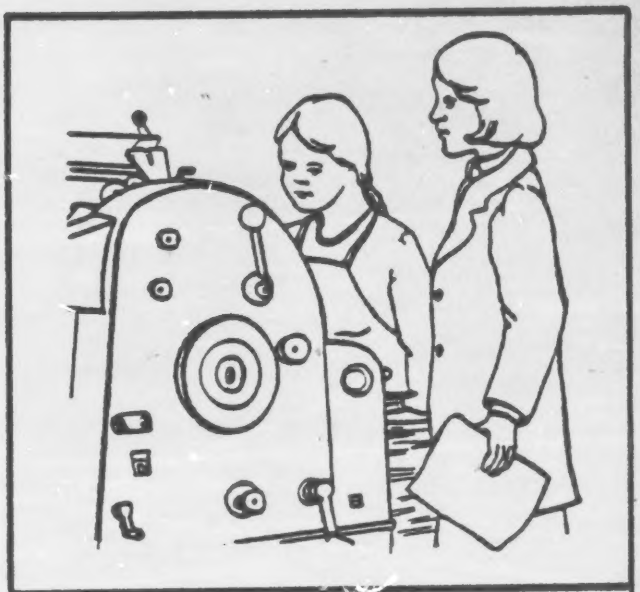
NOTE: THE ADJUSTING SCREWS NEED TO TURN ONLY A LITTLE TO CHANGE THE WIDTH OF THE BEAD. BE SURE TO LOOSEN THE LOCK SCREWS FIRST AND THEN LOCK THEM AGAIN BEFORE CHECKING PRESSURES. TURN THE ADJUSTING SCREW ONLY 30-40° (EQUAL TO 5 MINUTES ON A CLOCK) AT A TIME AND LOCK IT IN PLACE WHEN CHECKING PRESSURE.



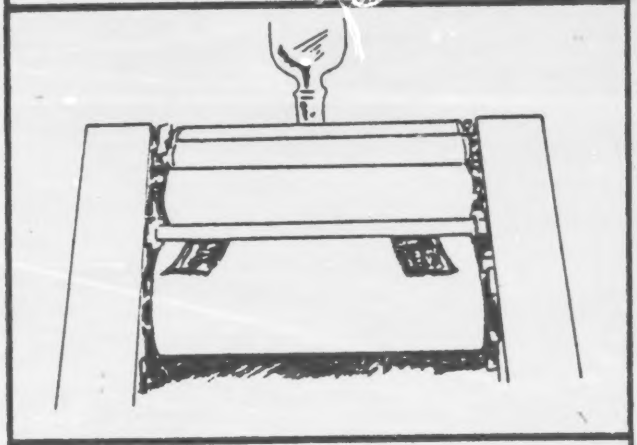
JOB STEPS

7. IF THE INK ROLLER PRESSURES WERE CORRECT FOR STEP #3, USE A SCREWDRIVER TO CHANGE ONE OF THE ROLLERS SO IT IS UNEVEN AND DO AN INK FORM ROLLER CHECK.

8. NOW, RE-ADJUST THE ROLLER PRESSURE SO IT IS CORRECT (HAVE YOUR INSTRUCTOR DOUBLE-CHECK TO SEE IF YOUR INK BEADS ARE CORRECT).

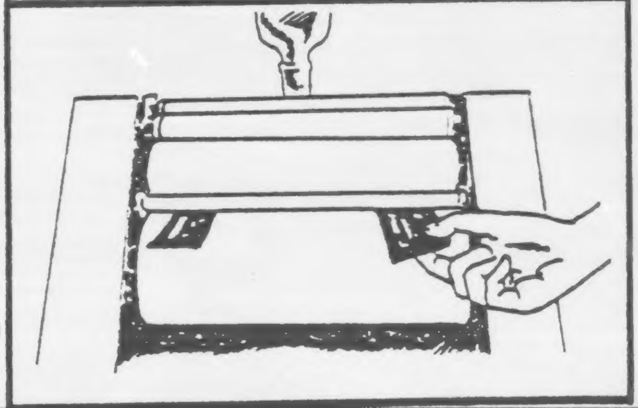


9. ALL OFFSET PRESSES EXCEPT THE A.B. DICK HAVE A WATER OR DAMPNER FORM ROLLER. TO CHECK THE DAMPNER FORM ROLLER PRESSURE ON OTHER PRESSES, PLACE TWO 3CM WIDE PIECES OF FILM (OR OLD NEGATIVE) BETWEEN THE PLATE AND DAMPNER FORM ROLLER AS SHOWN:



10. KEEP THE FILM ABOUT 3CM IN FROM EACH END, SLIDE THE FILM IN UNDER THE DAMPNER FORM ROLLER ABOUT 3CM BEFORE ENGAGING (DROPPING) THE FORM ROLLER.

11. USING THE SAME HAND WHEN YOU PULL THE STRIPS OF FILM OUT, PULL JUST A LITTLE ON EACH. COMPARE PRESSURES. THE PULL SHOULD BE EVEN AND "SNUG".

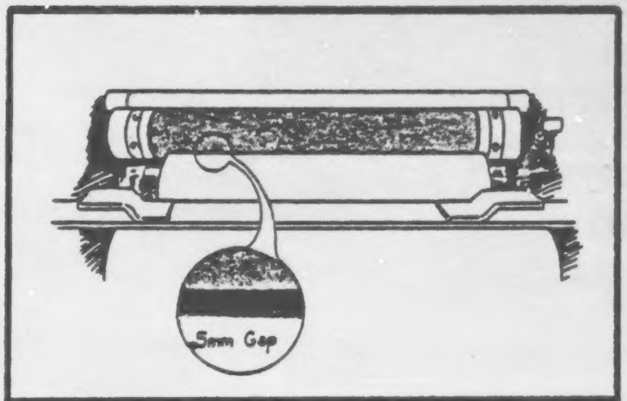


WORD GUIDE

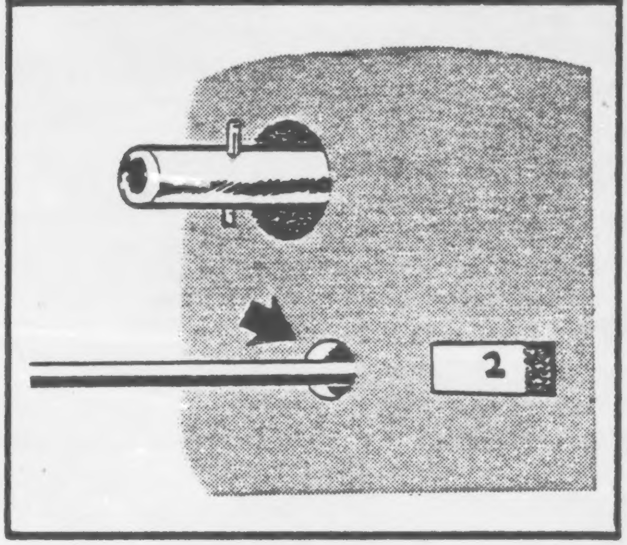
SNUG - TIGHT.

JOB STEPS

12. TO CHECK DAMPNER PRESSURE ON AN A. B. DICK, TURN THE HANDWHEEL UNTIL THE DUCTOR ROLLER HAS TRAVELED AS FAR AS IT CAN TOWARD THE OSCILLATOR ROLLER. THERE SHOULD BE A .5 MM GAP ACROSS THE ENTIRE LENGTH BETWEEN THE TWO ROLLERS. CHECK THIS ON YOUR A. B. DICK. IF IT IS INCORRECT OR UNEVEN, ASK YOUR INSTRUCTOR TO HELP YOU ADJUST THIS.



13. USE A LARGE PHILLIPS-HEAD SCREWDRIVER AND REMOVE THE HANDWHEEL ON THE A. B. DICK:



A. INSERT AN ALLEN WRENCH (SEE PICTURE) INTO THE CONTROL DIAL.

B. TURN THE DIAL TO #2 TO INCREASE THE PRESSURE.

C. TURN THE DIAL TO #15 TO CHANGE THE BLANKET CYLINDER TO IMPRESSION CYLINDER PRESSURE.

D. RETURN THE CONTROL DIAL TO #6 FOR REGULAR PAPER.

NOTE: LOW NUMBERS INCREASE PRESSURE AND HIGHER NUMBERS DECREASE PRESSURE.

14. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK, AND THEN CLEAN UP YOUR WORK AREA.

graphics

unit: PRESSWORK

capital area career center

1401 13 213
module: 1401 13 213 3 date: APRIL 1977 level: III

skill title: HOW TO RUN 2-COLOR REGISTRATION ON THE OFFSET PRESS

developed & written by: DWIGHT SMITH

visuals by: SANDRA STARNAMAN

WORD GUIDE

UNIFORM INK COVERAGE - AN EVEN COAT OF INK WHERE IT IS SUPPOSED TO BE. UNDER A MAGNIFYING GLASS, SMALL WHITE PITS CAN BE SEEN. YOU WANT JUST THE RIGHT AMOUNT OF INK ON THE PAGE.

REGISTER - PRINTING WITH THE IMAGE EXACTLY WHERE IT IS SUPPOSED TO BE. IN COLOR WORK, THE IMAGE MUST OFTEN BE WITHIN .3MM. MOST COLOR PRINTING PLATES HAVE "REGISTER MARKS" TO HELP THE PRINTER.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO PRINT A 2-COLOR REGISTRATION ON THE AB DICK OFFSET PRESS.

AND IN ORDER TO DO THIS YOU WILL NEED:

- AN AB DICK OFFSET PRESS
- COLORED INKS
- CHEMICALS AND CLEAN UP SUPPLIES
- PLATES AND STOCK FOR A 2-COLOR PRINTING JOB
- MAGNIFYING GLASS

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU HAVE PRINTED 1,000 2-COLOR SHEETS AND EACH SHEET:
    - A. HAS EXACT REGISTER WITHIN .5MM
    - B. HAS UNIFORM INKING THROUGH THE WHOLE RUN
    - C. SHOWS NO SCUM, DIRT, BLANKS, MISSED REGISTER OR FINGERPRINTS
    - D. IS NEATLY STACKED
2. YOU HAVE CLEANED THE PRESS AND CLEANED, GUMMED AND PROPERLY FILED THE PLATES.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

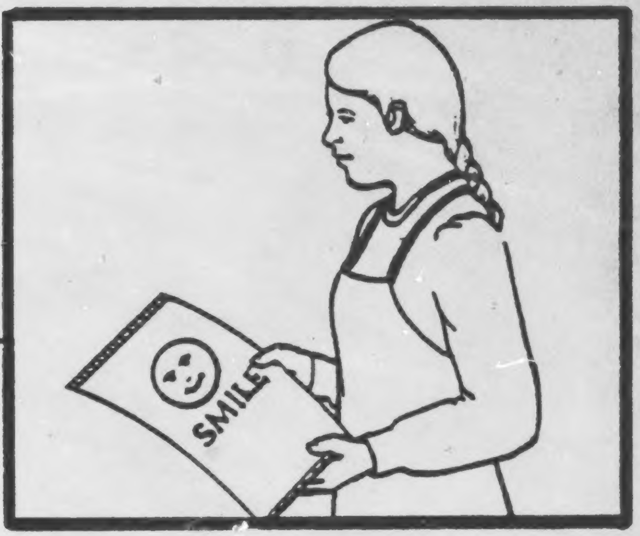
KINKS - IMPERFECTIONS WHICH CAN PREVENT OPERATION OF SOMETHING.

JOB STEPS

1. GET A PLATE FOR MOD #1401 13 213 3.

2. CHECK THE PLATE FOR:

   A. SCRATCHES
   B. KINKS
   C. BAD GUMMING JOB
   D. INK ON THE PLATE

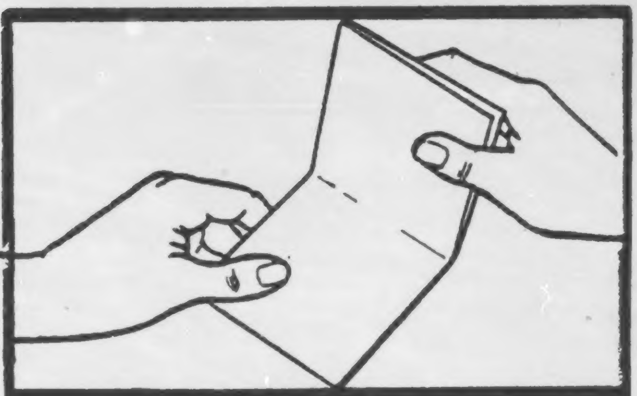


3. IF YOU FIND ANY OF THESE, SHOW YOUR INSTRUCTOR.

4. ASK YOUR INSTRUCTOR FOR 1,000 SHEETS OF 5 1/2" X 8 1/4", GOOD SCRAP STOCK.

5. CHECK THE SQUARENESS OF THE STOCK:

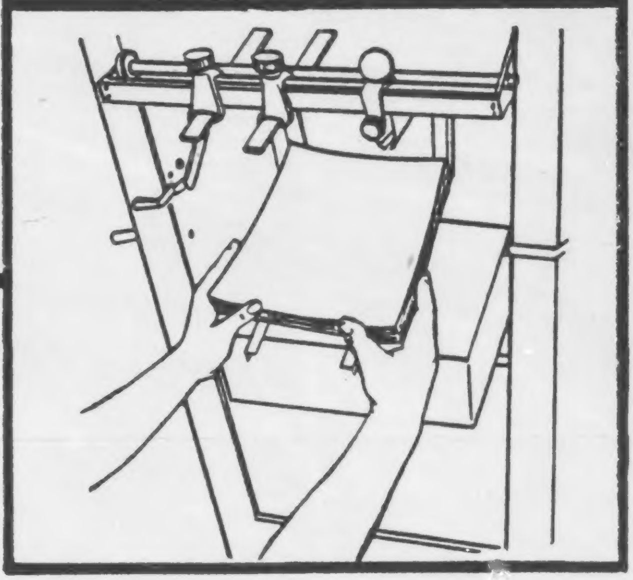
A. FOLD A SHEET IN HALF
B. DO THE CORNERS MEET EXACTLY?
C. FOLD THE PAPER THE OTHER WAY. DO THE CORNERS MEET EXACTLY?



6. IF THE PAPER IS NOT SQUARE, TRIM A LITTLE OFF SO THAT IT IS SQUARE.

7. CHECK THE FEEDER ON THE OFFSET PRESS. ADJUST IT FOR YOUR STOCK SIZE.

8. LOAD THE STOCK INTO THE FEEDER.

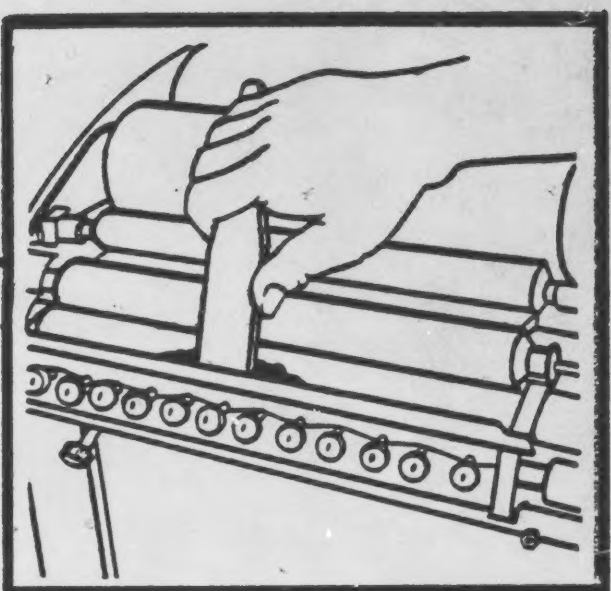


9. CHECK THE INK IN THE PRESS. IF IT IS CLEAN, CHOOSE EITHER BLUE OR RED.

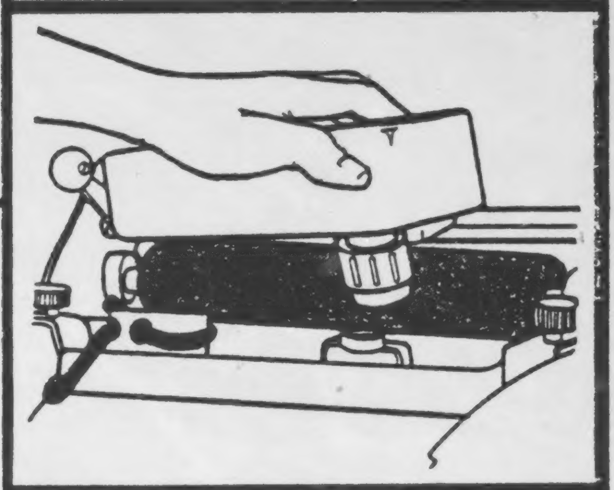
JOB STEPS

10. IF IT IS INKED WITH BLUE OR BLACK, FIND THE BLUE PLATE FOR THIS MOD.

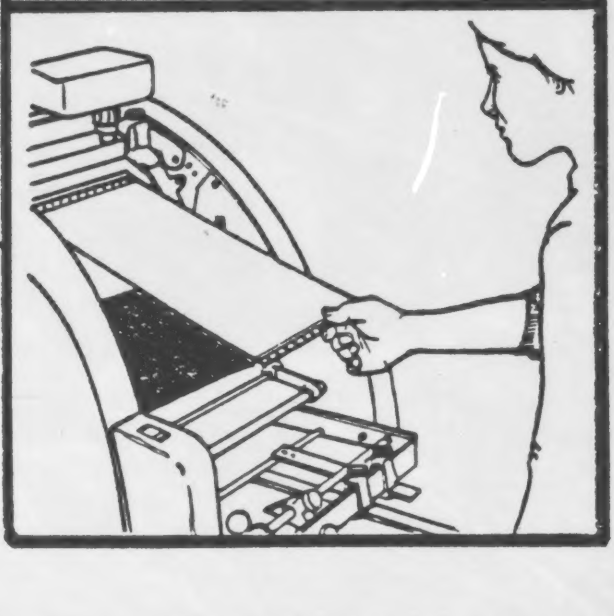
11. IF NOT INKED, INK THE PRESS.



12. ADD THE FOUNTAIN SOLUTION.



13. PUT THE FIRST PLATE ON THE PRESS (BLUE IF YOU ARE INKED-UP WITH BLUE OR BLACK; RED IF INKED WITH RED).



JOB STEPS

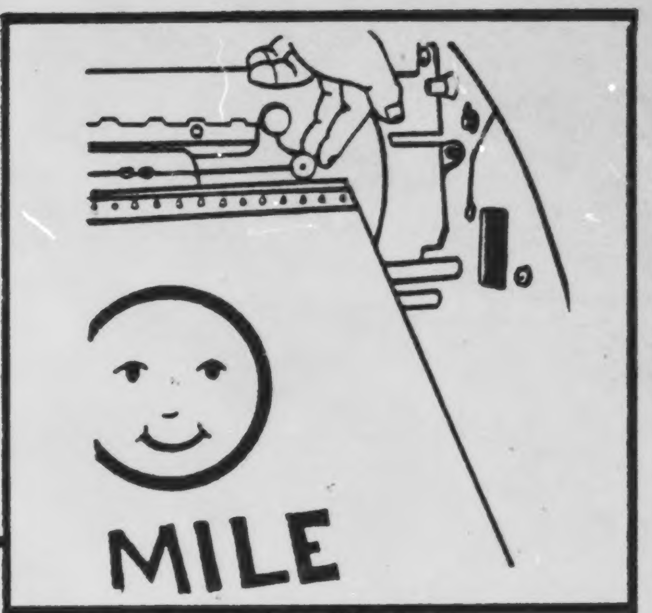
14. USING THE CENTERING MARKS, CENTER THE IMAGE.

15. CHECK YOUR CENTERING:

  A. FOLD A PIECE OF PRINTED STOCK IN HALF.

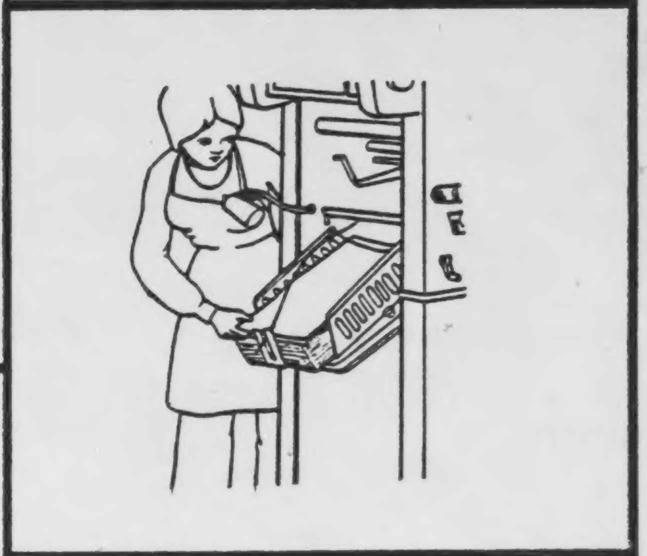
  B. LOOK AT THE CENTERING LINE. IF THE IMAGE IS CENTERED, THE CENTERING LINE WILL BE ON THE FOLD LINE.

16. CHECK THE ANGLE ADJUSTMENT. YOU MIGHT NEED TO ADJUST THE GRIPPER EDGE OF THE PLATE CYLINDER.



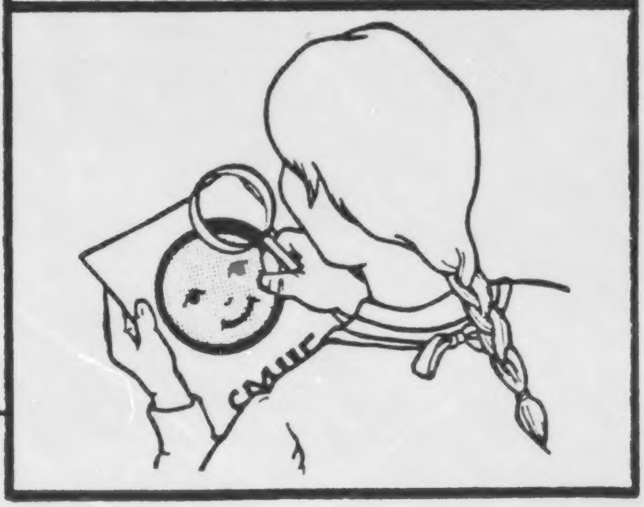
17. IF YOU ADJUST THE ANGLE, LEAVE THE OLD IMAGE ON THE BLANKET. THIS HELPS YOU SEE HOW MUCH YOU MOVED THE IMAGE.

18. SET UP THE FEEDER AND DELIVERY ENDS FOR THE STOCK YOU ARE RUNNING.



19. WHEN PRESS IS READY, PRINT 10 SHEETS.

20. CHECK THE SHEETS FOR UNIFORM INK COVERAGE. USE THE MAGNIFYING GLASS UNDER BRIGHT LIGHT (ASK YOUR INSTRUCTOR TO HELP).

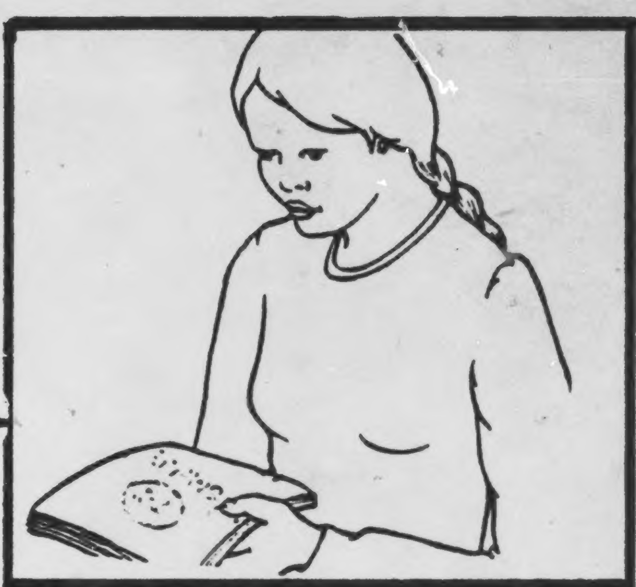


JOB STEPS

21. WHEN THE INK COVERAGE IS UNIFORM AND THE POSITION IS EXACTLY CENTERED, PRINT 1,000 SHEETS.

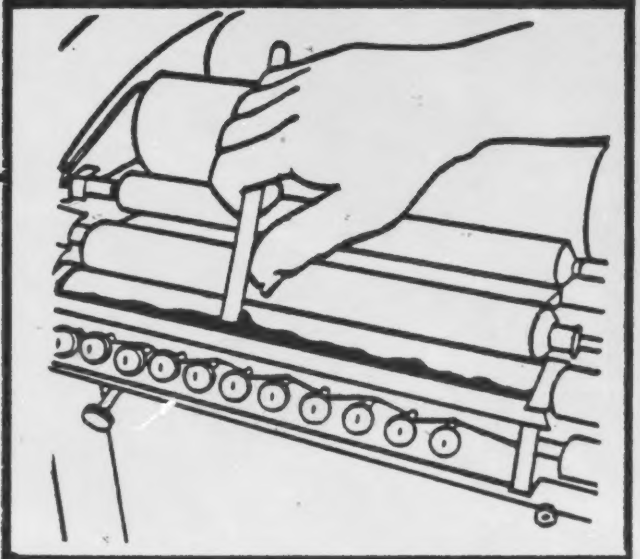
NOTE: HERE ARE SOME GUIDES FOR QUALITY PRINTING:

A. CHECK INK COVERAGE EVERY 100-200 SHEETS.



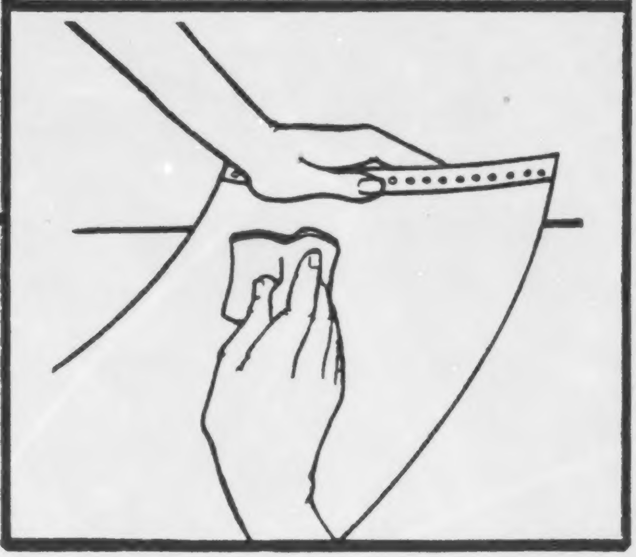
B. KEEP THE PRESS SPEED LOW, (ABOUT #6 OR SO).

C. STIR THE INK IN THE INK FOUNTAIN AND CHECK POSITION EVERY 100 SHEETS.



22. WHEN YOU ARE DONE PRINTING, REMOVE THE PLATE.

23. CLEAN, GUM, AND PUT IT IN THE FOLDER.



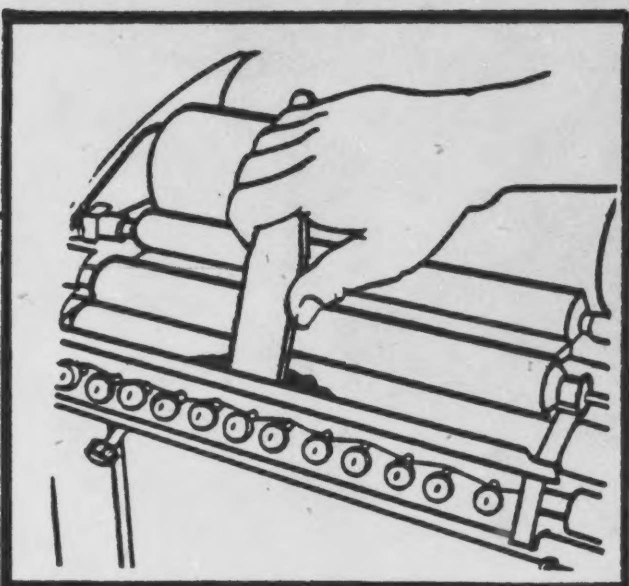
24. REMOVE THE STOCK FROM THE DELIVERY END OF THE PRESS.

25. CLEAN THE PRESS AS YOU DID IN MOD 1401 13 211 3 (HOW TO CLEAN THE AB DICK OFFSET PRESS). BE SURE YOU HAVE ENOUGH TIME FOR THIS.

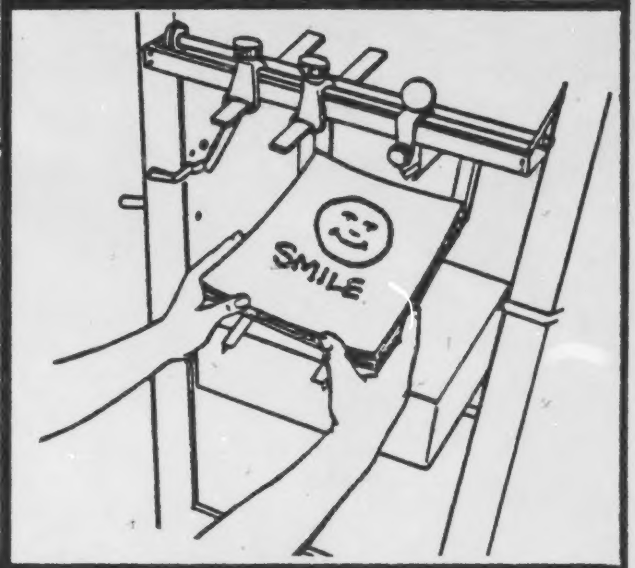
JOB STEPS

26. USE OPAQUE INK TO INK UP THE PRESS WITH THE SECOND COLOR (RED IF YOU PRINTED BLUE OR BLACK; BLUE OR BLACK IF YOU PRINTED RED).

27. PUT THE SECOND PLATE ON THE PRESS.



28. LOAD THE STOCK YOU PRINTED INTO THE FEEDER.

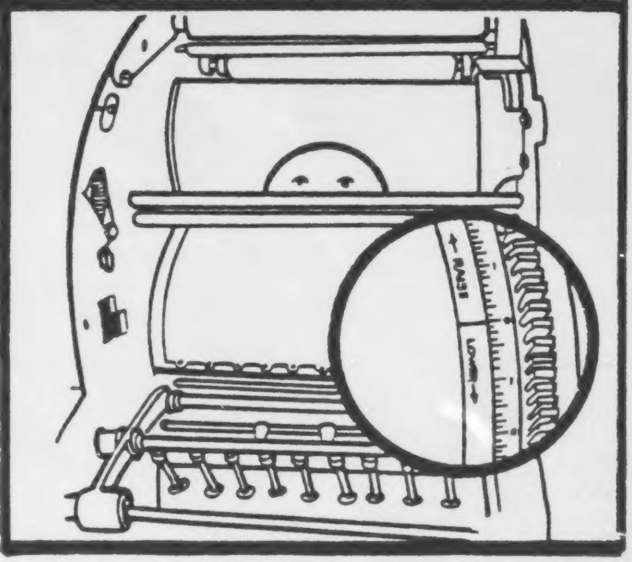


29. POSITION THE IMAGE SO THAT IT REGISTERS EXACTLY WITH THE FIRST ONE. LINE UP THE REGISTER MARKS WITHIN .3MM.

30. WHEN THE REGISTER IS EXACT, RUN 10 SHEETS.

31. CHECK THE INK COVERAGE AS YOU DID IN JOB STEP 20.

32. WHEN THE INK COVERAGE AND POSITION ARE BOTH CORRECT, PRINT THE 1,000 SHEETS OF STOCK (USE THE GUIDE FROM JOB STEP 22 FOR GOOD QUALITY).



33. WHEN YOU ARE DONE PRINTING, TAKE THE PLATE OFF. THEN, CLEAN, GUM, AND FILE IT PROPERLY.

34. CLEAN THE PRESS.

35. PUT ALL THE SUPPLIES AWAY. CLEAN UP YOUR PRINTING AREA.

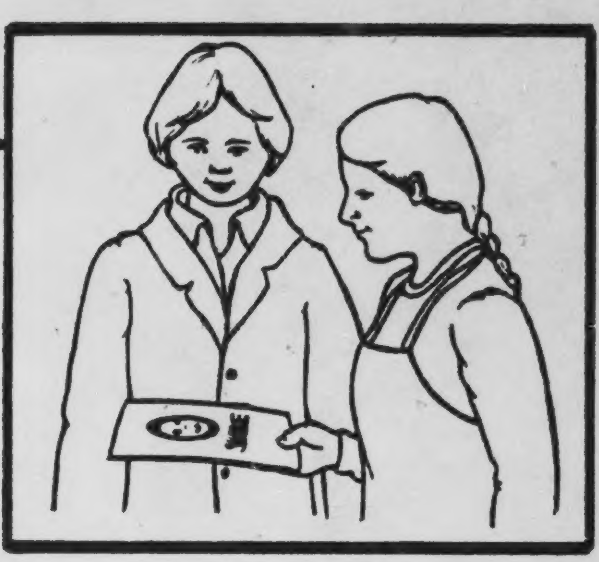
JOB STEPS

36. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK. YOUR INSTRUCTOR WILL CHECK FOR:

A. CLEAN SHEETS AND NO FINGERPRINTS.

B. BLANK SHEETS OR REGISTER JUMPS.

C. A CLEAN PRESS AND SPOTLESS WORK AREA.



37. TAKE THE QUIZ ON THE NEXT PAGE.

38. GOOD WORK! YOU HAVE RUN A 2-COLOR JOB AND HELD REGISTRATION. NOW COME SOME REAL ROUGH JOBS; 3 AND 4-COLOR PRESSWORK WITH TIGHT REGISTRATION.

ANSWERS TO QUIZ: 1. C, 2. B, 3. C, 4. B, 5. TRUE

QUIZ YOURSELF

ANSWER ON ANOTHER PIECE OF PAPER, PICK THE BEST ANSWER.

1. REGISTER MEANS ______.
   - A. SIGN UP FOR SCHOOL
   - B. PRINT EXACTLY WHERE YOU FEEL LIKE
   - C. PRINT EXACTLY WHERE YOU SHOULD
   - D. SIGN THE FORM AT THE DESK FOR VOTING

2. OPAQUE INKS ________.
   - A. ARE CLEAR
   - B. CANNOT BE SEEN THROUGH
   - C. ARE ALWAYS BLACK
   - D. ARE HARD TO FIND

3. CHECK FOR UNIFORM INK COVERAGE EVERY _________ SHEETS.
   - A. 1,000
   - B. 500
   - C. 100
   - D. 1

4. COLOR PRINTING SHOULD BE RUN AT A ___________ SPEED.
   - A. FAST
   - B. SLOW
   - C. SNAIL'S
   - D. WHAT EVER YOU FEEL LIKE

5. YOU CAN SEE LITTLE WHITE PITS UNDER MAGNIFYING GLASS IF THE INK COVERAGE IS GOOD.

   (CIRCLE ONE) TRUE FALSE

THE ANSWERS ARE ON THE PAGE BEFORE THIS ONE, ON THE BOTTOM.

graphics

unit: PRESSWORK

capital area career center

module: 1401 13 214
1401 13 214 3 date: APRIL 1977 level: III

skill title: HOW TO RUN 3-COLOR REGISTRATION ON THE OFFSET PRESS

developed & written by: GLEN PETTIT AND DWIGHT SMITH

visuals by: SANDRA STARNAMAN

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO RUN A 3-COLOR REGISTRATION JOB ON THE OFFSET PRESS.

AND IN ORDER TO DO THIS YOU WILL NEED:

AN OFFSET PRESS

OFFSET CHEMICALS

CLEAN-UP MATERIALS

SUPPLIES PLATES

STOCK FOR A 3-COLOR JOB

WE WILL KNOW THAT YOU CAN DO THIS WHEN:

1. YOU HAVE PRINTED 1,000 COPIES OF A 3-COLOR JOB AND THE SHEETS YOU PRINT:
    - A. ARE EXACTLY REGISTERED WITHIN .5 MM.
    - B. ARE UNIFORMLY INKED.
    - C. HAVE CLEAR SECONDARY COLORS.
    - D. SHOW NO SCUM, FINGERPRINTS, BLANKS OR MIS-REGISTRATIONS. THE PRESS YOU CLEAN AND PRESS AREA ARE BOTH CLEAN. THE PLATES ARE CLEANED, GUMMED, AND FILED PROPERLY.
2. YOU HAVE CLEANED THE PRESS, AND PRESS AREA, AND PROPERLY CLEANED, GUMMED AND FILED THE PLATES.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

TRANSPARENT - SOMETHING SO CLEAR, YOU CAN SEE THROUGH IT.

STEAL A TRIM - TRIMMING A LITTLE OFF THE SIDES TO MAKE THE PAPERS THE SAME SIZE.

INFORMATION

TRANSPAREANT INKS ARE USED FOR COLOR PRINTING. THESE INKS ARE CALLED "PROCESS" INKS. THE 3-COLORS ARE: MAGENTA (RED), CYAN (BLUE), AND YELLOW. THE COLORS OVERLAP LIKE WATERCOLOR PAINTS TO FORM DIFFERENT COLORS.

NOTE: A TRUE BLACK IS NOT PRINTED WITH 3-COLORS BUT WITH FOUR. IN THE NEXT MOD, YOU WILL PRINT WITH FOUR COLORS.

WHEN PRINTING WITH 3-COLORS, THE PAPER STOCK MUST ALL BE THE EXACT SAME SIZE. IF THE PAPER SIZE CHANGES SO WILL YOUR REGISTER. CHECK THE STOCK BEFORE YOU RUN IT. YOU CAN STEAL A TRIM.

WORD GUIDE

TRAIL-IN - A FEW SHEETS OF COLORED PAPER ARE OFTEN PRINTED AT THE END OF A JOB. THESE TRAIL-IN SHEETS SHOW HOW THE JOB LOOKS ON DIFFERENT-COLORED PAPER.

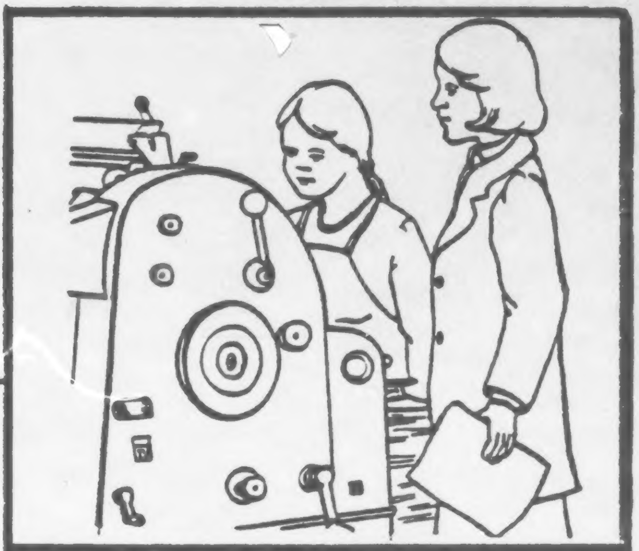
JOB STEPS

1. GET A SET OF PLATES FOR THIS MOD AND GO TO FEEDER.

NOTE: CHECK FOR THIS NUMBER: 1401 13 214.

2. CHECK THE CONDITION OF THE PLATES (AS YOU DID IN THE LAST MON - RUNNING A 2-COLOR JOB).

3. ASK YOUR INSTRUCTOR FOR SOME STOCK FOR THIS MOD. ASK FOR:



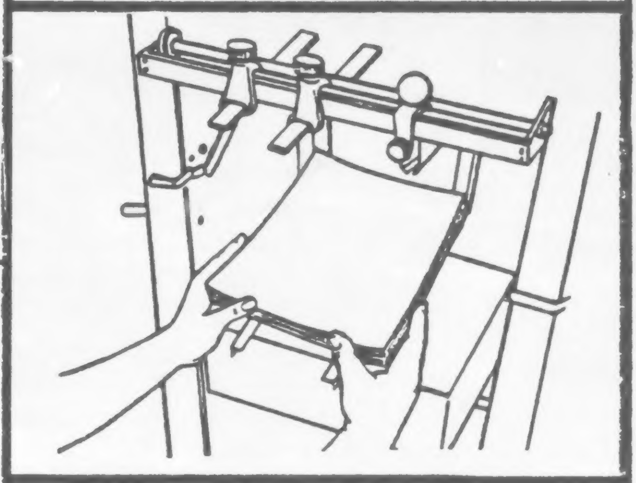
A. 900 SHEETS, GOOD STOCK

B. 200 OR MORE, BOND SHEETS

C. 50 SHEETS OF COATED STOCK TO WHICH YOU CAN "TRAIN-IN"

4. CHECK THE PAPER FOR STRAIGHTNESS. IF NECESSARY, "STEAL A TRIM".

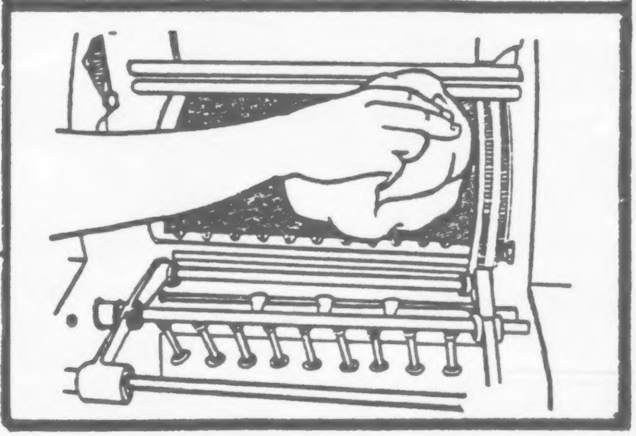
5. SET UP THE FEEDER FOR YOUR STOCK.



6. LOAD THE STOCK INTO THE FEEDER.

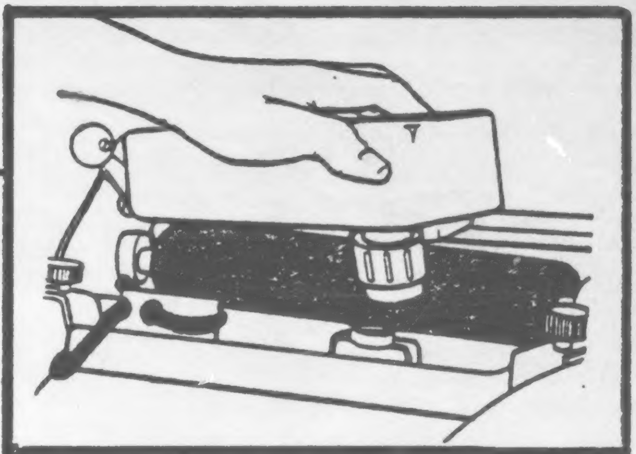
NOTE: BE SURE THE COATED STOCK IS ON THE BOTTOM.

7. A DIRTY BLANKET WILL RUIN YOUR JOB. USING BLANKET WASH AND A RAG, CLEAN THE BLANKET. WASH IT AT LEAST TWO TIMES.

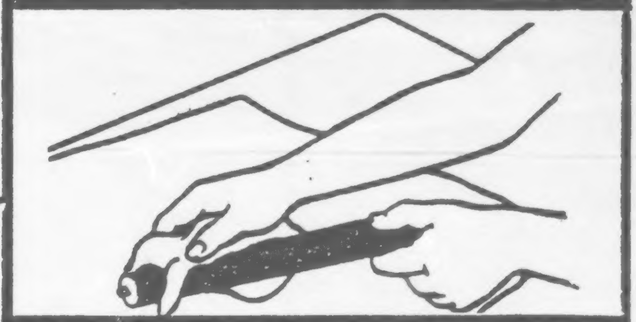


JOB STEPS

8. ANY DIRT, OLD PAPER, OR OLD INK CAN RUIN YOUR JOB. CLEAN THE WATER AND INK FOUNTAINS CAREFULLY.

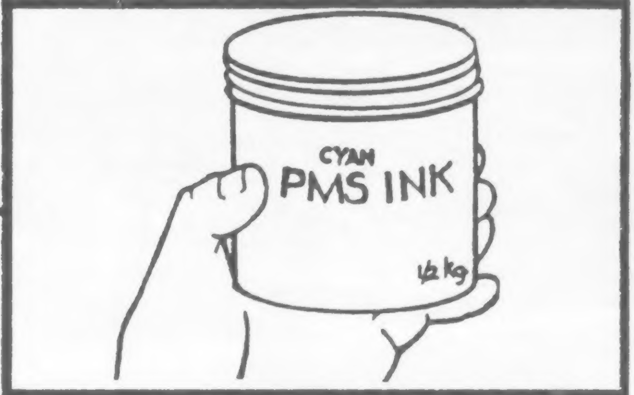


9. REMOVE THE INK ROLLERS FROM THE PRESS AND CLEAN THEM WELL.



10. PUT THE ROLLERS BACK INTO THE PRESS.

11. GET A 1/2KG OF CYAN PMS INK. READ THE LABEL ON THE CAN TO BE SURE YOU HAVE THE RIGHT CAN.

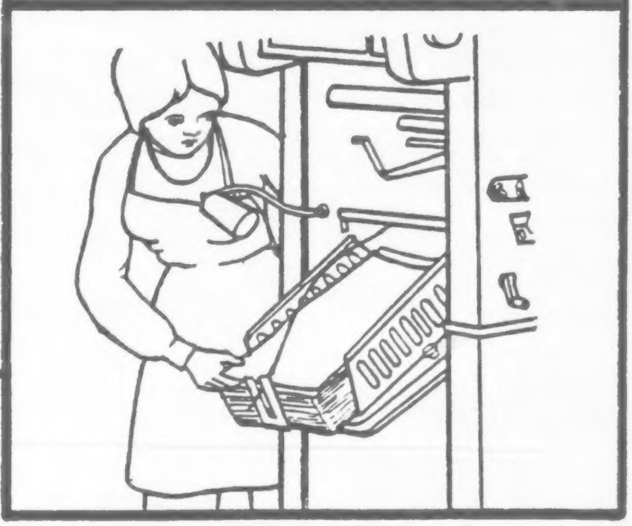


12. USING A CLEAN INK KNIFE, INK THE PRESS WITH CYAN INK.

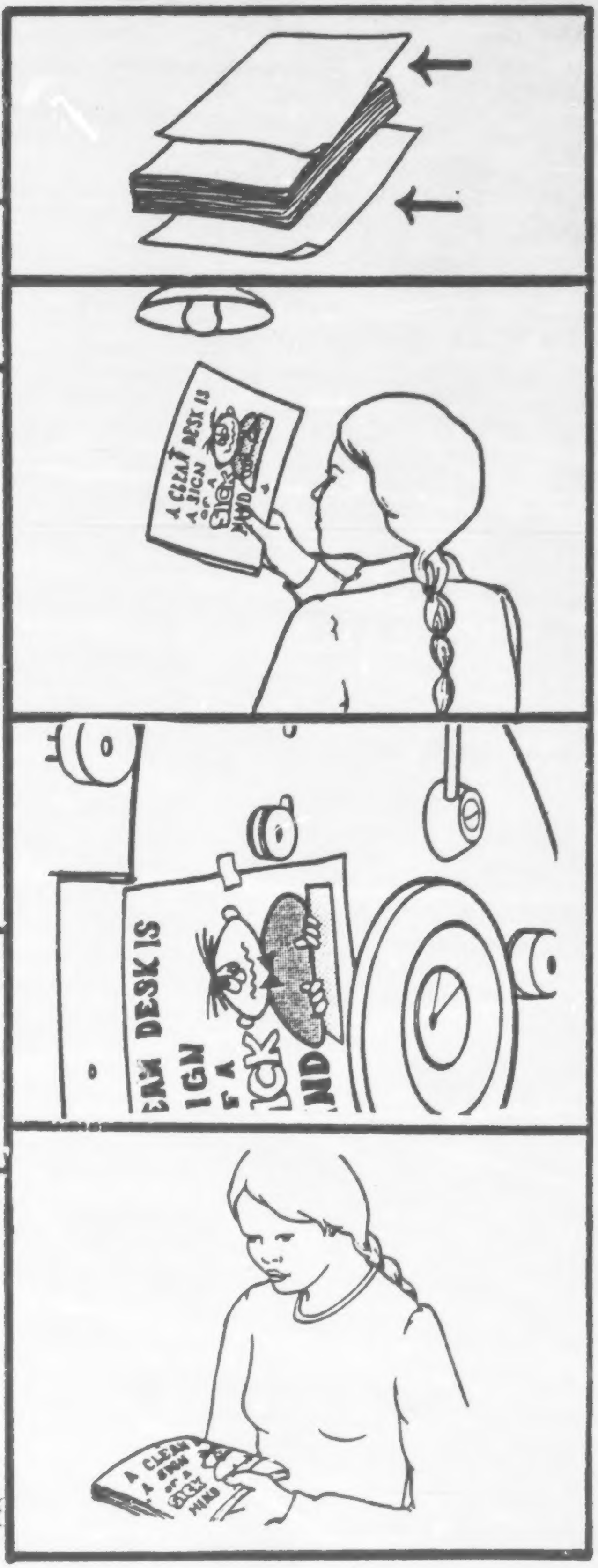
13. PUT THE CYAN PLATE ONTO THE PRESS.

14. CENTER THE IMAGE EXACTLY. CHECK THE POSITION (AS YOU DID IN THE 2 COLOR JOB MOD).

15. CHECK THE FEEDER AND THE DELIVERY END OF THE PRESS TO BE SURE THEY ARE SET CORRECTLY.



JOB STEPS


A CLEAN DESK IS A SIGN OF A SICK MIND
DESK IS
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ICK
IND

16. START RUNNING THE PRESS. ADJUST FOR UNIFORM INK COVERAGE.

17. STOP THE PRESS AFTER ABOUT 200 IMPRESSIONS. TAKE ONE SHEET FROM THE BEGINNING AND ONE FROM THE END OF THE 200 SHEETS.

18. HOLDING THE TWO SHEETS TOGETHER, AIM THEM AT A LIGHT TO SEE IF THE TWO IMAGES ARE EXACTLY ON TOP OF EACH OTHER.

NOTE: CHECK REGISTER MARKS, TOO.

19. WHEN THE REGISTER AND THE INK COVERAGE ARE JUST RIGHT, PRINT THE REST OF THE STOCK.

20. TAPE A PERFECT SHEET TO THE SIDE OF THE PRESS WITH WHICH YOU CAN COMPARE FUTURE SHEETS.

21. DURING THE PRESS RUN, CHECK THE QUALITY EVERY 50 SHEETS OR SO.

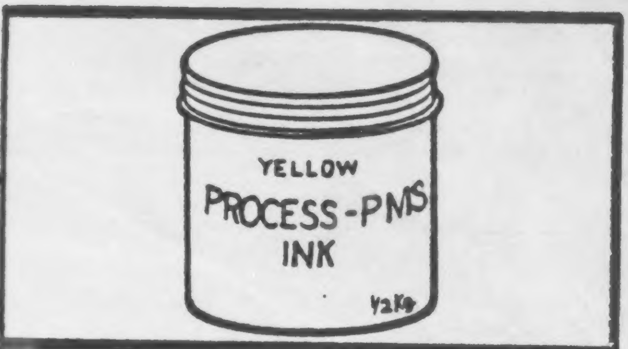
22. AFTER PRINTING ALL THE STOCK, TAKE THE CYAN PLATE. CLEAN, GUM, AND FILE IT PROPERLY.

23. CLEAN THE PRESS. GET IT VERY CLEAN FOR YELLOW BECAUSE IT IS THE HARDEST FOR WHICH TO PREPARE.

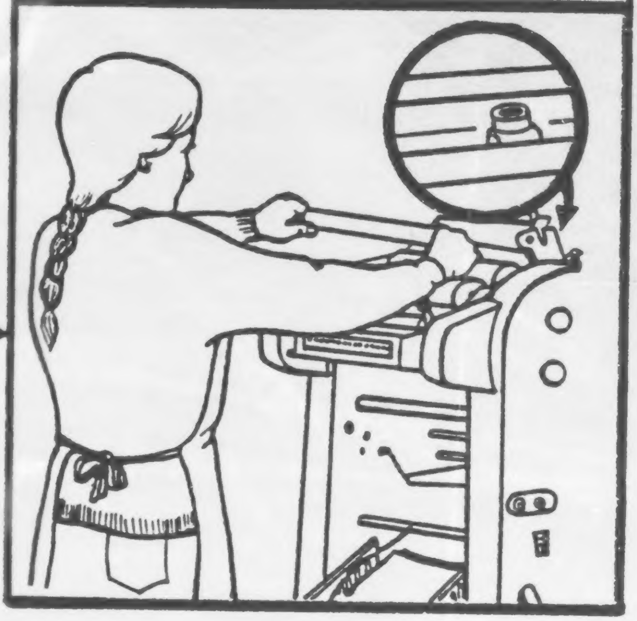
NOTE: TO PREPARE FOR YELLOW, YOU MIGHT SPEND ONE HOUR CLEANING THE PRESS.

JOB STEPS

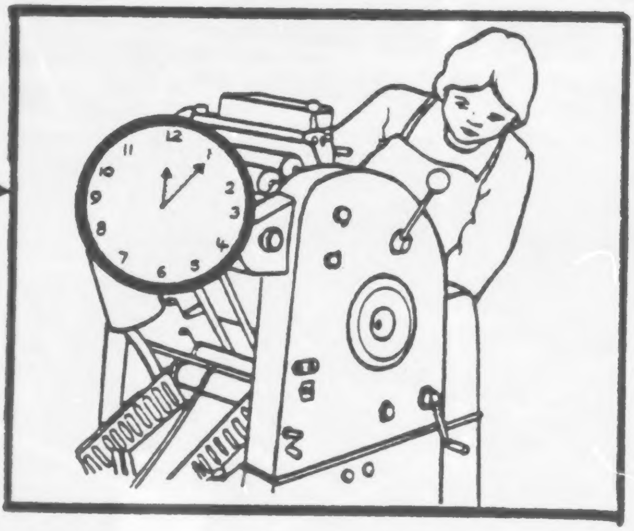
24. WHEN THE PRESS IS CLEAN, INK IT WITH 5GM OF PMS YELLOW PROCESS INK.


YELLOW
PROCESS-PMS
INK
½Kg

25. REMOVE THE DUCTOR ROLLER. LEAVE OUT THE FOUNTAIN SOLUTION.



26. RUN THE PRESS FOR 5 MINUTES.



JOB STEPS

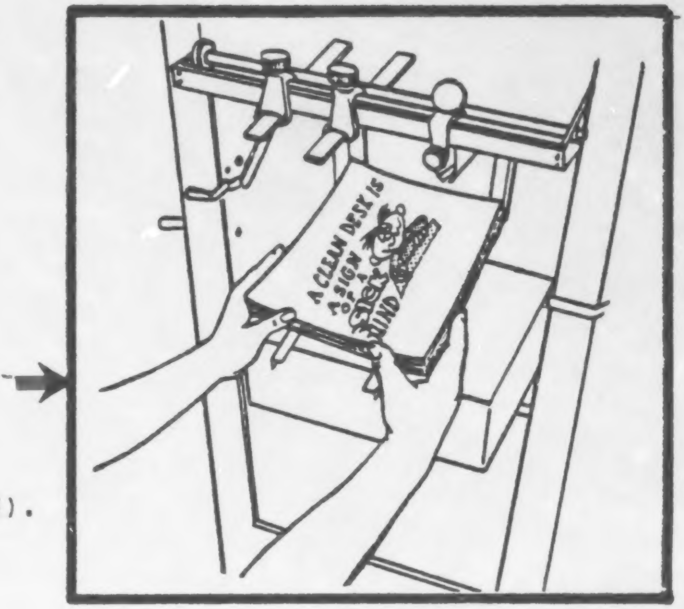
27. IF THE INK HAS TURNED GREEN OR BLACKISH, CLEAN THE PRESS.

28. WHEN THE PRESS IS CLEAN, INK WITH YELLOW AGAIN.

NOTE: ALWAYS USE A CLEAN INK KNIFE. NEVER PUT YELLOW BACK IN THE CAN.

29. PUT THE YELLOW PLATE ON THE PRESS.

30. LOAD THE STOCK BACK INTO THE FEEDER. BE SURE IT IS IN A NEAT, STRAIGHT PILE.



31. SET-UP THE PLATE POSITION. CHECK YOUR WORK (AS YOU DID BEFORE).

32. PRINT 10 SHEETS. CHECK THE INK COVERAGE.

33. WHEN THE POSITION AND THE INK COVERAGE ARE BOTH EXACTLY RIGHT, PRINT THE STOCK.

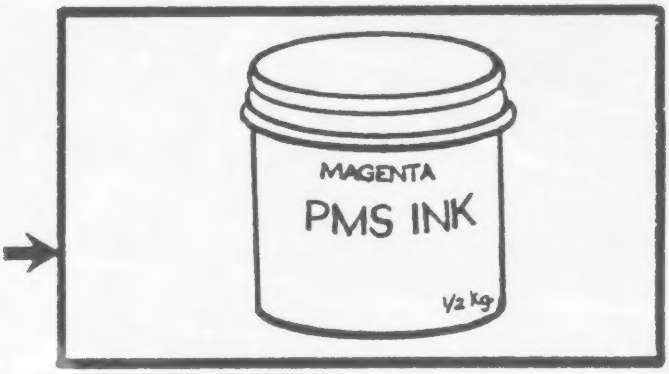
34. TAPE A PERFECT COPY TO THE PRESS WITH WHICH TO COMPARE SHEETS AS YOU RUN THE JOB.

35. WHEN YOU ARE FINISHED PRINTING YELLOW, TAKE THE PLATE OFF THE PRESS.

36. CLEAN, GUM, AND FILE THE PLATE PROPERLY, AS USUAL.

37. CLEAN THE PRESS.

38. INK WITH PMS MAGENTA.



39. PUT THE STOCK BACK INTO THE FEEDER.

40. POSITION THE REGISTER EXACTLY. CHECK IT AS YOU DID BEFORE AND BE SURE TO USE THE REGISTER MARKS.

41. RUN A FEW SHEETS AND CHECK FOR INK COVERAGE.

42. WHEN YOU HAVE EVERYTHING SET UP RIGHT, RUN THE STOCK.

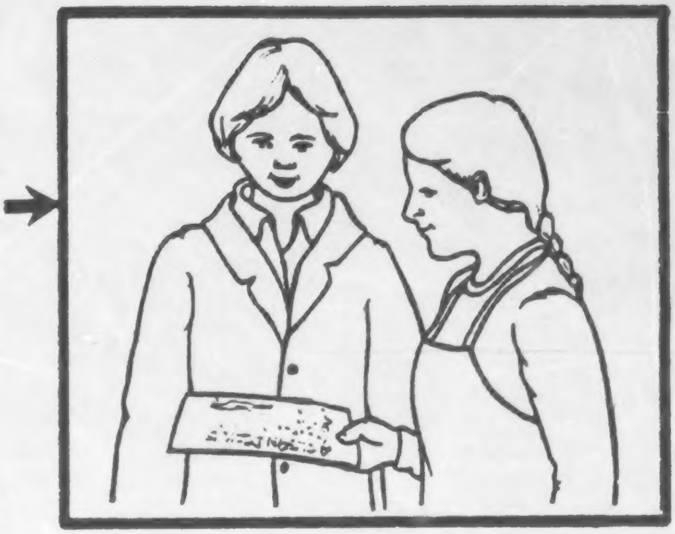
JOB STEPS

43. WHEN YOU ARE FINISHED PRINTING, REMOVE THE PLATE.

44. CLEAN, GUM, AND FILE THE PLATE PROPERLY.

45. CLEAN UP THE PRESS, AND THE WORK AREA. PUT AWAY ALL THE CHEMICALS AND SUPPLIES.

46. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK. HE/SHE WILL CHECK FOR:



A. THE REGISTRATION BETWEEN THE 3-COLORS.

B. THE INK COVERAGE.

C. SCUM, FINGERPRINTS, MIS-REGISTRATION OR JUMPS, BLANKS, AND BAD COPIES IN THE FINISHED PROJECT.

D. A CLEAN AREA.

E. PROPER CLEANING, GUMMING, AND FILING OF THE PLATES.

47. YOU DID IT! YOU HAVE PRINTED A 3-COLOR REGISTRATION JOB. BE SURE TO SAVE A FEW PAGES FOR THE FUTURE.

graphics

unit: PRESSWORK

capital area career center

1401 13 215

module: 1401 13 215 3 **date:** APRIL 1977 **level:** III

skill title: HOW TO RUN 4-COLOR PROCESS REGISTRATION ON THE OFFSET PRESS

developed & written by: DWIGHT SMITH AND GLEN PETTIT

visuals by: SANDRA STARNAMAN

WORD GUIDE

COLOR BARS - A SERIES OF DIFFERENT COLORS. THEY ARE USED TO CHECK COLOR PRINTING FOR COLOR RANGE, REGISTRATION AND INK COVERAGE.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO RUN 4-COLOR PROCESS REGISTRATION ON THE OFFSET PRESS.

AND IN ORDER TO DO THIS YOU NEED:

AN OFFSET PRESS

OFFSET CHEMICALS

CLEAN-UP SUPPLIES

PLATES AND STOCK FOR A 4-COLOR JOB

WE WILL KNOW THAT YOU CAN DO IT WHEN:

YOU HAVE PRINTED 100 4-COLOR SHEETS AND THE FINAL PAGES HAVE:

A. EXACT REGISTRATION (WITHIN .3MM).

B. UNIFORM INK COVERAGE.

C. NO FINGERPRINTS, MISSED OR JUMPED REGISTER, BLANK SHEETS OR SCUM.

D. UNIFORM AND CLEAN COLOR BARS.

AND:

A. THE FINAL JOB LOOKS LIKE A COLOR PHOTOGRAPH.

B. THE PRESS AND WORK AREAS ARE CLEAN.

C. YOU HAVE CLEANED, GUMMED AND FILED THE PLATES PROPERLY.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

OVERLAPPING - ONE ON TOP OF ANOTHER.

TRANSPARENT - SOMETHING SO CLEAR, YOU CAN SEE THROUGH IT.

INFORMATION

PRINTER'S USE 3 PRIMARY COLORS: MAGENTA (RED), YELLOW AND CYAN (BLUE). BY USING OVERLAPPING PRIMARY COLORS, YOU CAN GET ALMOST EVERY SHADE OF COLOR.

BUT BECAUSE THESE COLORS ARE NOT PURE, A SOLID, PURE BLACK CANNOT BE PRINTED. BLACK IS ALL COLORS TOGETHER. YOU WILL PRINT WITH BLACK LAST FOR THE BLACK AREAS IN THE IMAGE.

THE INKS FOR THIS JOB ARE TRANSPARENT. THE PMS INKS ARE THE SAME AS YOU USED IN THE 3 COLOR MOD. (1401 13 214 3).

YOU NEED 4 PLATES FOR PRINTING THIS PROJECT. THE PLATES ARE MADE FROM NEGATIVES. FOUR NEGATIVES ARE MADE FROM THE ORIGINAL PHOTOGRAPH AND ARE CALLED "SEPARATIONS". EACH HALFTONE HAS ONE COLOR RECORDED ON IT. THE SEPARATIONS ARE MADE BY A CAMERA OPERATOR. A SET OF SEPARATIONS COSTS ABOUT $150. THE PRINTING COST OF 1,000 COPIES IS ABOUT $150.

ALWAYS USE THE REGISTER MARKS FOR SETTING UP REGISTRATION. USE THE COLOR BARS TO SEE WHEN YOU HAVE GOOD BALANCE AND INK COVERAGE. BIG SHOPS HAVE EXPENSIVE DENSIOMETERS TO CHECK INK THICKNESS AND COLOR BALANCE.

A PROG IS A PROGRESSIVE PROOF. THIS TYPE OF PROOF SHOWS THE IMAGE AS IT GOES THROUGH THE PRINTING STEPS. THE "PROG" ALSO SHOWS WHAT THE IMAGE LOOKS LIKE IN COMBINATIONS OF 1, 2, AND 3 COLORS. MAKE SEVERAL "PROGS" AS YOU PRINT THIS PROJECT. TURN ONE IN WHEN YOU ARE DONE.

CHECK THE STOCK BEFORE RUNNING IT. YOU CAN STEAL A TRIM (TRIM A FEW MILLIMETERS FROM ONE OR MORE SIDES) TO KEEP THE PAPER ALL THE SAME SIZE.

THIS IS THE HARDEST MOD IN COLOR PRINTING. BE CAREFUL AND PRECISE. THIS IS A GOOD SKILL TO HAVE IN ANY PRINT SHOP. GOOD LUCK.

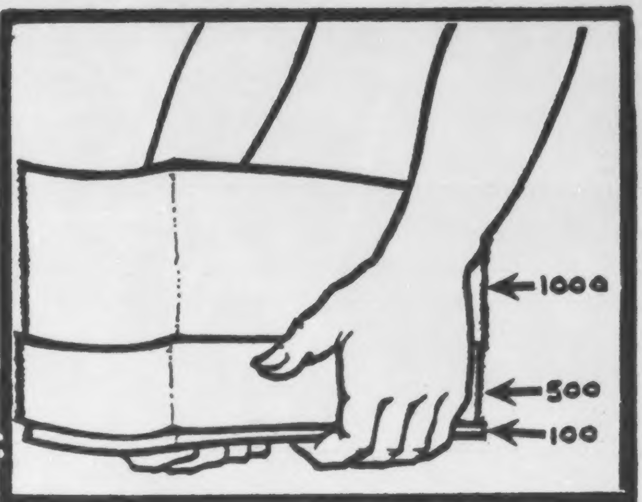
JOB STEPS

1. BE SURE THAT YOU CAN USE THE PRESS FOR THE NEXT 5 DAYS. WHEN YOU CAN USE THE PRESS, GET A SET OF 4 COLOR PLATES FOR THIS MOD (CHECK FOR THIS NUMBER: 1401 13 215).

2. CHECK THE PLATES FOR DAMAGES AND IMPROPER USE (AS YOU DID BEFORE IN MOD 1401 13 315).

3. ASK YOUR INSTRUCTOR FOR SOME 8 1/2" X 11" STOCK. YOU NEED:

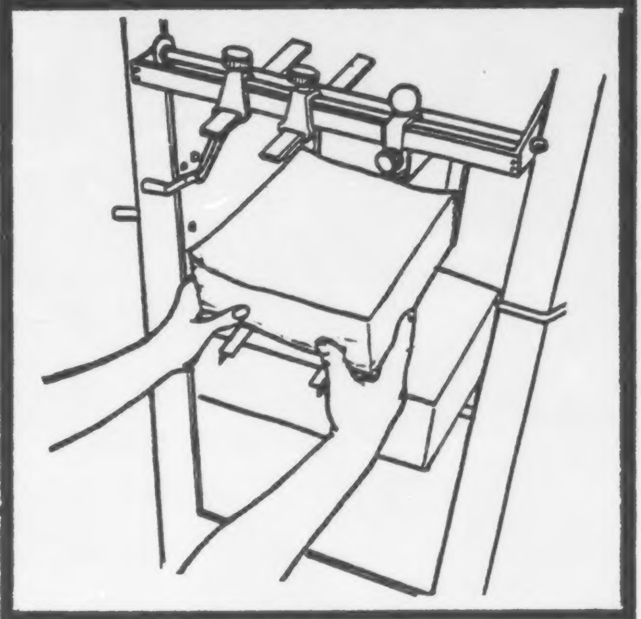
A. 1,000 GOOD SCRAP
B. 500 NEW #20 BOND
C. 100 COATED STOCK



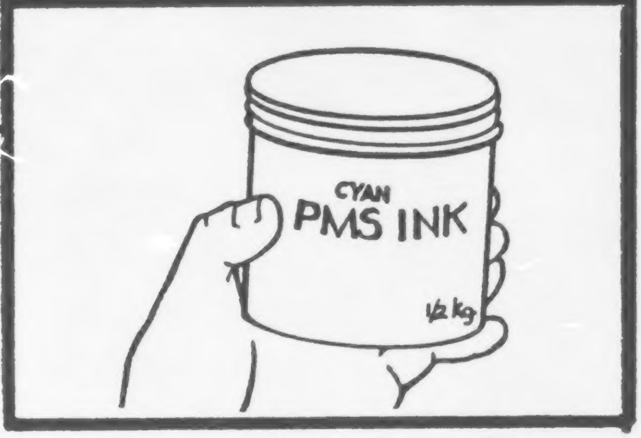
CHECK THE PAPER FOR STRAIGHTNESS AND SQUARENESS. "STEAL A TRIM" IF NECESSARY.

4. IF THE PRESS HAS INK ON IT, CLEAN THE PRESS (AS YOU LEARNED EARLIER).

5. LOAD THE STOCK INTO THE FEEDER OF THE PRESS. BE SURE TO PUT THE COATED STOCK ON THE BOTTOM, THE BOND IN THE MIDDLE, AND THE SCRAP ON TOP.



6. INK THE PRESS WITH PMS CYAN (BLUE). THEN, SET THE IMAGE EXACTLY.

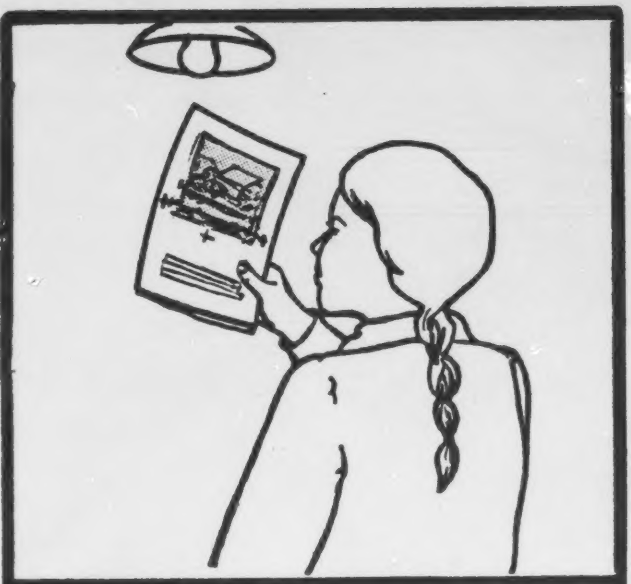


7. PRINT 10 SHEETS AND CHECK THE INK COVERAGE. ADJUST IT IF NECESSARY. THEN, PRINT 100 SHEETS.

JOB STEPS

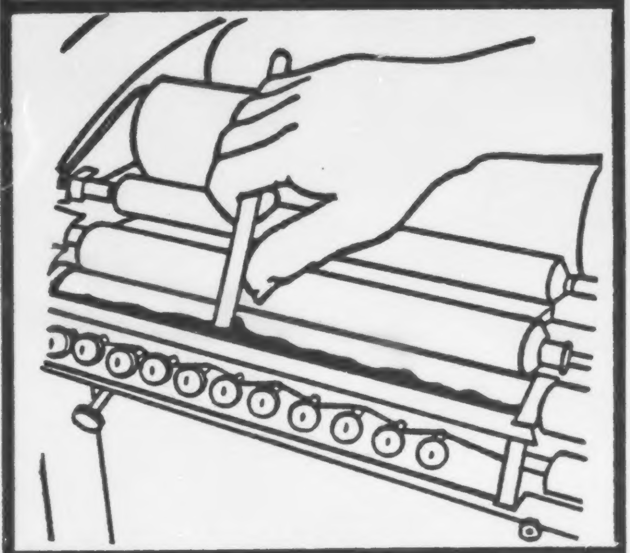
8. RELOAD THE 100 SHEETS AND PRINT THEM AGAIN.

NOTE: CHECK THE 2 IMAGES. THEY MUST BE RIGHT ON TOP OF EACH OTHER.



9. WHEN THE REGISTRATION AND THE INK COVERAGE ARE BOTH RIGHT, PRINT THE STOCK.

10. CHECK THE QUALITY AS YOU PRINT. STIR THE INK EVERY 200 IMPRESSIONS. KEEP THE WATER FOUNTAIN FULL ENOUGH.



11. TAPE A COPY OF A PERFECT SHEET TO THE PRESS. USE IT TO COMPARE AS YOU PRINT.

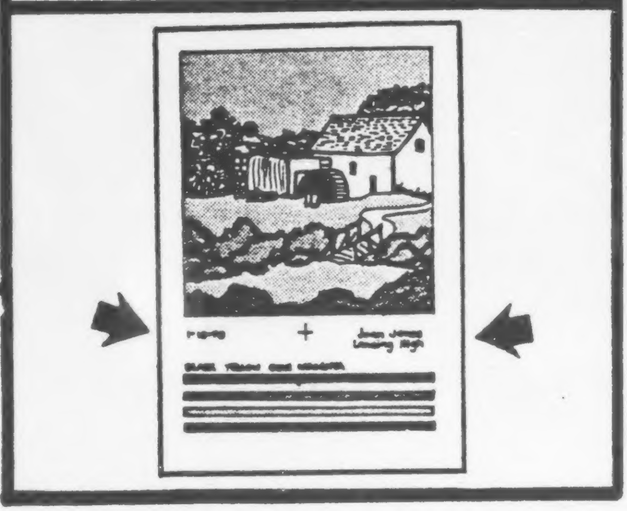
12. WHEN FINISHED RUNNING THE CYAN, TAKE THE PLATE OFF THE PRESS. THEN, CLEAN, GUM, AND FILE THE PLATE.

13. GET A DIRECT IMAGE MASTER FOR THE OFFSET PRESS.

14. USE A "NON-REPRO" PENCIL TO MARK THE POSITION OF THE IMAGE ON THE PLATE.

15. USE A CARBON RIBBON TYPEWRITER TO TYPE YOUR NAME, THE DATE, AND YOUR SCHOOL ON THE PLATE. THEN, PUT THE PAPER PLATE ON THE PRESS.

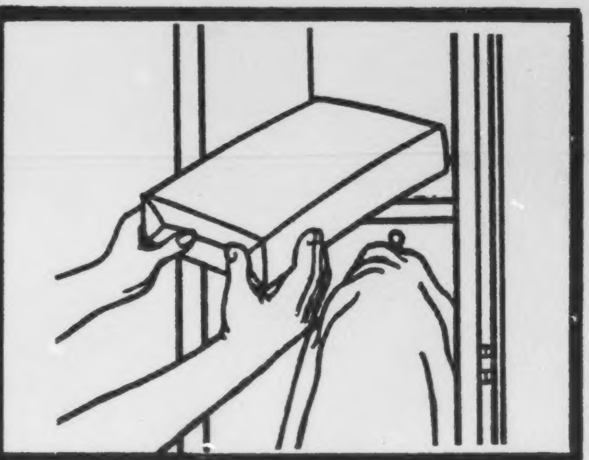
16. USE THE PAPER PLATE ETCH TO ETCH THE PLATE AND THEN POSITION THE IMAGE TO LOOK LIKE THIS:



17. PRINT IN ANY COLOR ON YOUR STOCK (THIS IS TO IDENTIFY YOUR JOB).

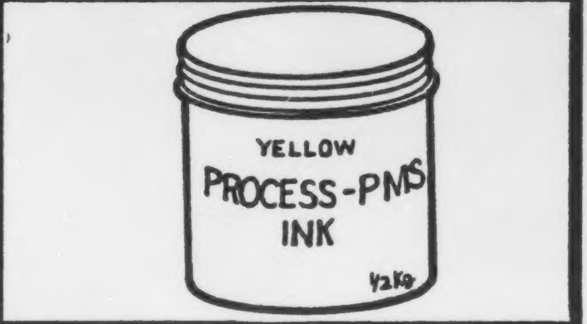
JOB STEPS

18. WHEN YOU ARE FINISHED PRINTING FOR THE DAY, PUT YOUR STOCK IN YOUR LOCKER FOR SAFE-KEEPING. WRAP IT UP AND PUT YOUR NAME ON IT.



19. CLEAN THE PRESS FOR YELLOW, AS YOU LEARNED IN MOD 1401 13 214.

20. INK UP WITH PMS PROCESS YELLOW. BE SURE YOU HAVE A CLEAN, PURE YELLOW BEFORE GOING ON. THEN, PUT THE YELLOW PLATE ON THE PRESS, SET UP THE POSITION, AND CAREFULLY CHECK THE REGISTER.

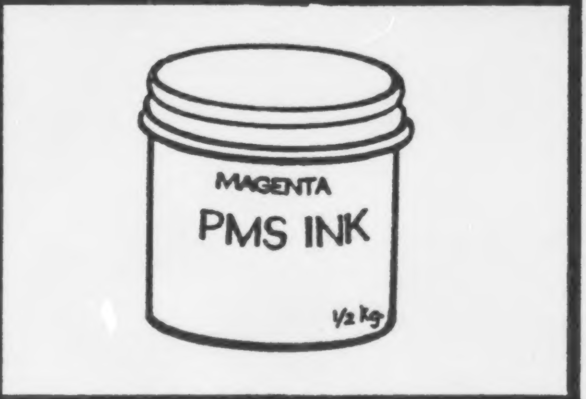


NOTE: CHECK FOR UNIFORM INK COVERAGE AS YOU DID BEFORE.

21. PRINT THE STOCK. CHECK THE QUALITY AS YOU ALWAYS SHOULD BY TAPING A PERFECT COPY TO THE PRESS (AS YOU DID BEFORE).

22. WHEN YOU ARE FINISHED RUNNING, TAKE THE YELLOW PLATE OFF THE PRESS. THEN, CLEAN, GUM, AND FILE THE PLATE AND CLEAN THE PRESS.

23. INK UP THE PMS MAGENTA (RED).

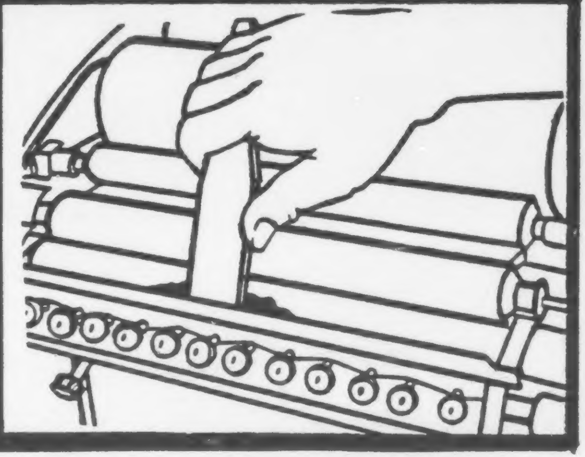


24. PUT THE MAGENTA PLATE ON THE PRESS, SET UP THE POSITION, AND CHECK FOR UNIFORM INK COVERAGE.

25. PRINT THE STOCK, CHECK THE QUALITY AS YOU PRINT BY TAPING A PERFECT COPY TO THE PRESS (AS YOU DID BEFORE).

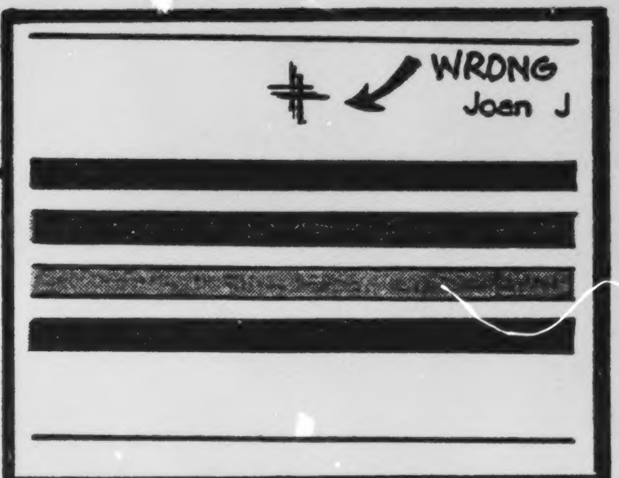
26. WHEN YOU ARE FINISHED PRINTING MAGENTA, TAKE THE PLATE OFF THE PRESS. THEN, CLEAN, GUM, AND FILE THE PLATE AND CLEAN THE PRESS.

27. NOW YOU ARE READY FOR THE LAST COLOR. INK THE PRESS WITH ANY KIND OF BLACK INK.



JOB STEPS

28. PUT THE BLACK PLATE ON THE PRESS, SET UP THE POSITION CHECK REGISTER, AND CHECK FOR UNIFORM INK COVERAGE (AS YOU DID BEFORE).



29. PRINT THE STOCK.

30. WHEN YOU ARE FINISHED PRINTING, TAKE THE BLACK PLATE OFF THE PRESS. CLEAN, GUM, AND FILE THE PLATE.

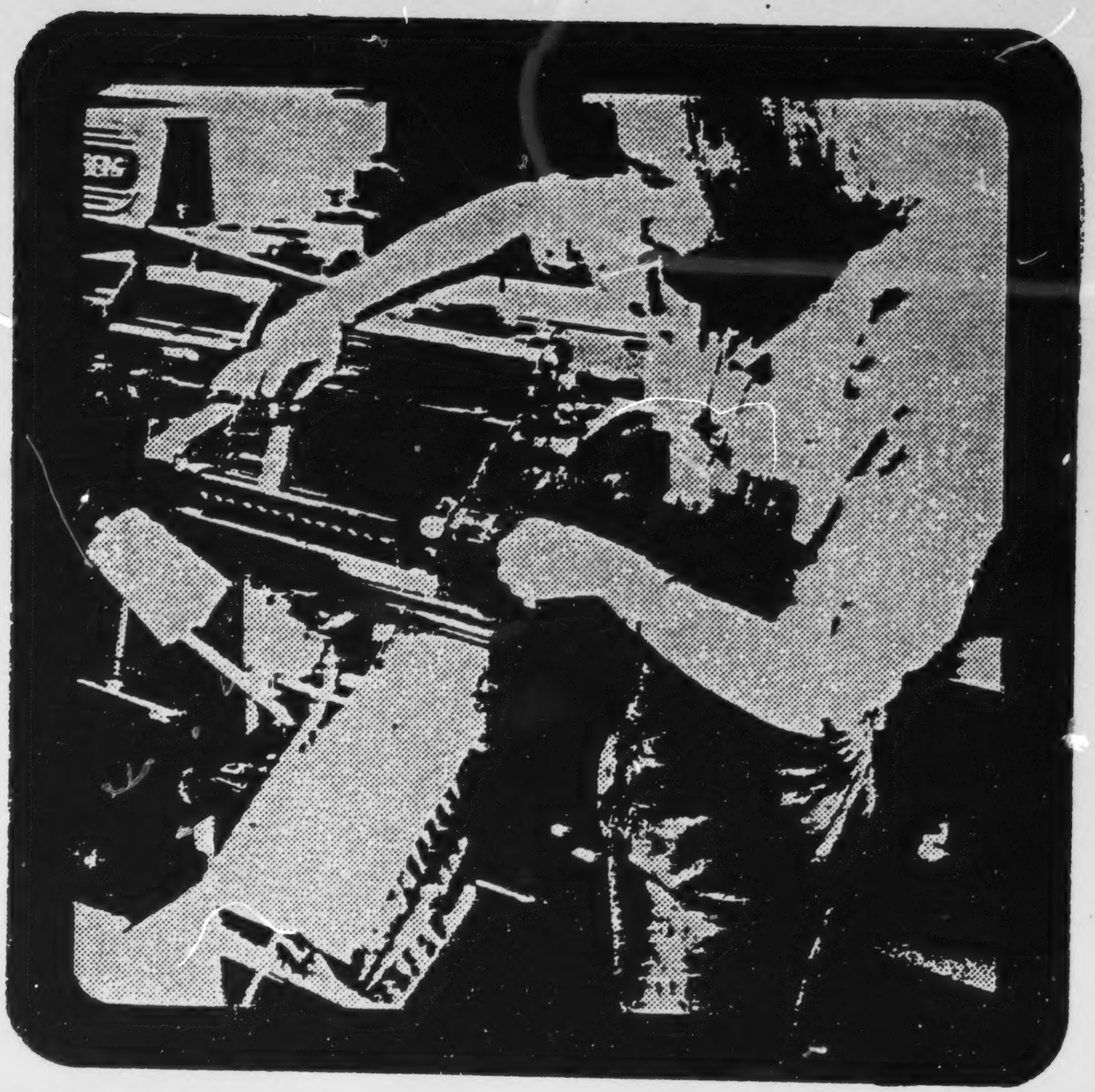
31. PUT AWAY ALL SUPPLIES, CHEMICALS, AND EQUIPMENT. THROW AWAY ALL WASTE-PAPER.

32. CLEAN UP YOUR WORK AREAS. PUT THE BOND PAPER IN THE GOOD SCRAP BOX.

33. SHOW YOUR INSTRUCTOR YOUR FINISHED JOB, THE PROGS, AND THE PLATES.

34. RETURN THE PLATES TO THE PLATE STORAGE AREA.

35. GOOD JOB! YOU HAVE JUST FINISHED THE HARDEST JOB ON A SMALL OFFSET PRESS.



graphics

unit: PRESSWORK

capital area career center

module: 1401 13 216
1401 13 216 3 date: 12/77 level: IV

skill title: ADVANCED PRODUCTION ON THE OFFSET PRESSES

developed & written by: GLEN PETTIT

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

PRODUCTION PROCEDURES, SCHEDULING AND SKILLS ON OFFSET PRESSES WHILE PRINTING MANY DIFFERENT KINDS OF JOBS.

AND IN ORDER TO DO THIS YOU WILL NEED:

AB DICK 350 OFFSET

CHIEF 17 OFFSET PRESS

MULTILITH 1250 OFFSET

JOB ENVELOPES, PLATE AND STOCK

ALL CHEMICAL AND SUPPLIES NEEDED

JOB RECORD SHEET

WE WILL KNOW YOU CAN DO IT WHEN:

1. ALL THE PRINTED JOBS MEET THE CUSTOMERS' REQUIREMENTS AND TIME SCHEDULE, AND MEET TRADE STANDARDS FOR PRODUCTION AND QUALITY.

2. YOU HAVE CORRECTLY FOLLOWED THE JOB ENVELOPES AND RECORDED ALL NEEDED INFORMATION ON THEM.

3. YOU HAVE CAREFULLY RECORDED THE JOB, QUANTITY RUN AND PRODUCTION TIME ON YOUR JOB RECORD SHEET AND THEY TOTAL UP TO AT LEAST 20 HOURS PRODUCTION.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

1401 13 206

IN MODULE 1401 13 206 3 "ADVANCED PRODUCTION AND OPERATION ON THE CHIEF 17 OFFSET" YOU LEARNED TO DO SOME PRODUCION, TO READ JOB ENVELOPES, TO RECORD INFORMATION ON THE JOB ENVELOPE AND TO KEEP A RECORD OF YOUR WORK FOR YOURSELF.

THE MAIN REASONS THAT YOU'RE IN THIS CLASS IS TO GET A JOB IN GRAPHICS: TO LEARN THE PRODUCTION PROCEDURES IN DOING PRINTING, TO LEARN HOW TO PLAN, ORGANIZE AND SCHEDULE PRODUCTION AND TO LEARN HOW TO RUN A PRESS. YOU WILL BE EXPECTED TO START PRINTING WITHIN A FEW MINUTES WHEN YOU FIRST START WORKING

A PRESS PERSON IS USUALLY GIVEN THE PAPER, PLATES AND THE JOB ENVELOPE FOR EACH OF MANY JOBS AT THE BEGINNING OF THE DAY. THE PRESS PERSON MUST DECIDE WHICH JOBS ARE RUN FIRST, THE QUANTITY, QUALITY, POSITION, ETC. FROM THE JOB ENVELOPE ONLY. ALL CLEAN-UP, MINOR REPAIRS AND SCHEDULING IS DONE BY THE PRESS PERSON ALONE. YOU MUST TIME YOUR JOBS, MAINTENANCE AND CLEAN-UP SO YOU CAN SHUT-DOWN FOR LUNCH OR QUITTING TIME (WITHOUT GOING OVER OR JUST STANDING AROUND IF DONE TOO EARLY).

FOR THIS MODULE YOU WILL DO AND RECORD AT LEAST 20 HOURS OF GOOD PRODUCTION. YOU MUST FOLLOW THE JOB ENVELOPE AND SCHEDULE YOUR TIME CAREFULLY. AFTER EACH JOB YOUR INSTRUCTOR WILL INITIAL YOUR JOB RECORD SHEET. YOU MAY USE PART OF YOUR PRODUCTION WHEN ON WORK EXPERIENCE FOR CREDIT.

JOB STEPS

1. YOU HAVE COMPLETED ALL OF THE BASIC MODULES FOR OFFSET AND HAVE TURNED IN THE JOB RECORD FOR MODULE 1401 13 206 "ADVANCED OPERATION AND PRODUCTION ON THE CHIEF 17 OFFSET".

2. START RECORDING EVERY PRODUCTION JOB YOU DO ON THE OFFSET PRESSES ON A NEW JOB RECORD SHEET. BE SURE TO RECORD ALL INFORMATION CAREFULLY AND KEEP A SAMPLE OF EACH JOB RUN BY YOU...YOUR INSTRUCTOR WILL PULL MANY JOB ENVELOPES OUT TO CHECK YOUR ACCURACY IN RECORDING INFORMATION.

3. IT'S YOUR RESPONSIBILITY TO WATCH THE PRODUCTION CONTROL BOARD FOR PRODUCTION THAT NEEDS TO BE RUN. WHEN YOU WANT TO RUN A PRODUCTION JOB, CHECK WITH THE STUDENT MANAGER OR INSTRUCTOR FOR AN OK.

4. WHEN YOU HAVE COMPLETED AT LEAST 20 HOURS OF PRODUCTION WORK, AND HAVE IT RECORDED ON YOUR JOB RECORD SHEET WITH AN EXAMPLE OF EACH JOB--TAKE THIS TO YOUR INSTRUCTOR FOR EVALUATION, CHECKING AND THEN CREDIT FOR THIS MODULE.

graphics

unit: PRESSWORK

capital area career center

module: 1401 13 217
1401 13 217 3

date: 7/77 level: III

skill title: HOW TO LUBRICATE AN A.B. DICK OFFSET DUPLICATOR

developed & written by: GLEN PETTIT

visuals by: SANDRA STARNAMAN

WORD GUIDE

LUBRICATE - GREASE; TO MAKE SMOOTH OR SLIPPERY.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO COMPLETELY LUBRICATE AN OFFSET DUPLICATOR.

AND IN ORDER TO DO THIS YOU WILL NEED:

AN A.B. DICK OFFSET DUPLICATOR

BASIC HAND TOOLS FOR A SMALL PRINT SHOP

  A REGULAR SCREWDRIVER

  A PHILLIPS SCREWDRIVER

THREE CLEAN RAGS

SAE 20# OIL (WITH ZOOM SPOUT)

CUP GREASE

BLANKET WASH

NEWSPAPERS

A.B. DICK LUCRICATION INSTRUCTION CHART

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN USE THE CORRECT OILS AND GREASE TO COMPLETELY LUBRICATE ALL PARTS ON AN OFFSET DUPLICATOR ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

INSPECT - LOOK OVER CAREFULLY.

MECHANICAL - RELATING TO PARTS OF A MACHINE.

INFORMATION

REGULAR AND CAREFUL LUBRICATION IS AN EXTREMELY IMPORTANT PART OF RUNNING A PRESS. YOU SHOULD ALLOW AT LEAST 2 HOURS EVERY FEW WEEKS FOR A COMPLETE LUBRICATION AND MAINTENANCE CHECK-UP. THE MANUFACTURER RECOMMENDS LUBRICATION EVERY 250,000 IMPRESSIONS (7,000 SHEETS PER HOUR, 7 HOURS PER DAY FOR A WEEK) OR AT LEAST ONCE A MONTH.

IF YOU TAKE THE CASES OFF THE PRESS YOU CAN DO PREVENTIVE MAINTENANCE AND LOOK FOR THINGS THAT MAY CAUSE PROBLEMS LATER. CHECK BELTS FOR WEAR AND TEAR, CHECK GEAR TEETH, ROLLERS, HOSES, WIRES, AND SPRINGS FOR WEAR, CRACKS AND HEAVY DIRT. ALSO CHECK FOR LOOSE SCREWS AND BOLTS. IF A PART BREAKS DURING PRODUCTION, MANY VALUABLE HOURS OR DAYS MAY BE LOST. SPEND SOME EXTRA TIME DURING LUBRICATION TO INSPECT EVERYTHING AND CLEAN THOSE HARD-TO-REACH AREAS.

IT IS IMPORTANT TO UNDERSTAND HOW THE OFFSET WORKS MECHANICALLY. ASK YOUR INSTRUCTOR TO REVIEW WITH YOU SOME OF BASIC FUNCTIONS OF THE GEARS, CONES, TIMING CONTROLS AND THEIR RELATED PARTS. IF YOU DO HAVE A MECHANICAL BREAKDOWN, YOU MAY BE ABLE TO LOCATE AND FIX THE PROBLEM YOURSELF.

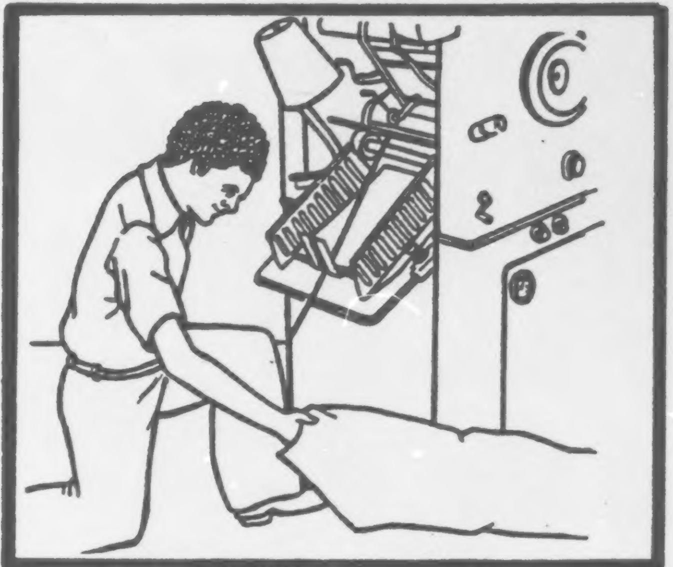
WORD GUIDE

ILLUSTRATED - SOMETHING DESCRIBED IN PICTURES, PHOTOS, OR DRAWINGS.

JOB STEPS

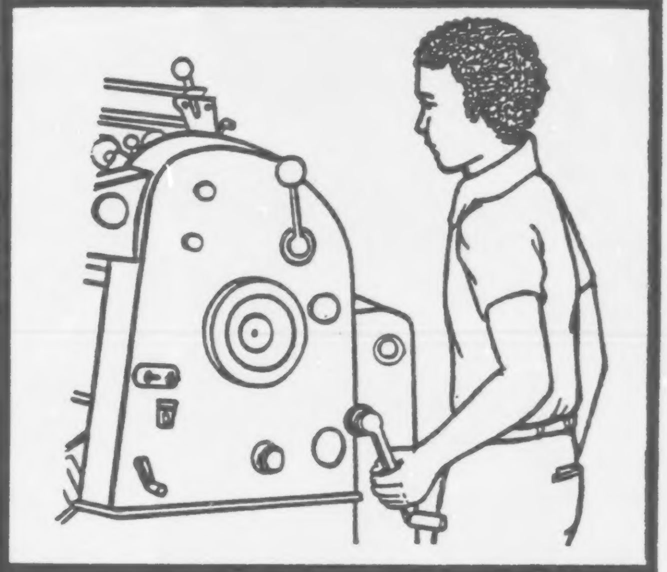
1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

2. SPREAD OPEN A SECTION OF NEWSPAPER TO WORK ON.

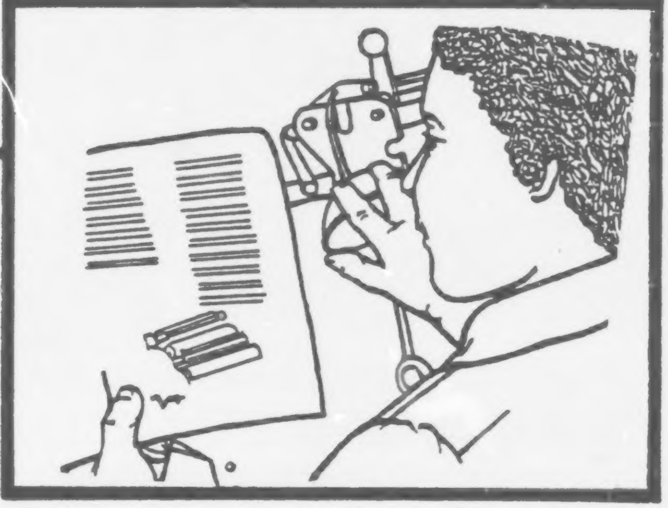


3. REMOVE ALL SIX UPPER MACHINE COVERS. FIRST, USING REGULAR AND PHILLIPS SCREWDRIVERS, REMOVE THE NINE CONTROL KNOBS OR WHEELS.

NOTE: BE SURE YOU USE THE CORRECT SCREWDRIVER FOR EACH SCREW AND KEEP ALL THE SCREWS TOGETHER SO THEY DON'T GET LOST.

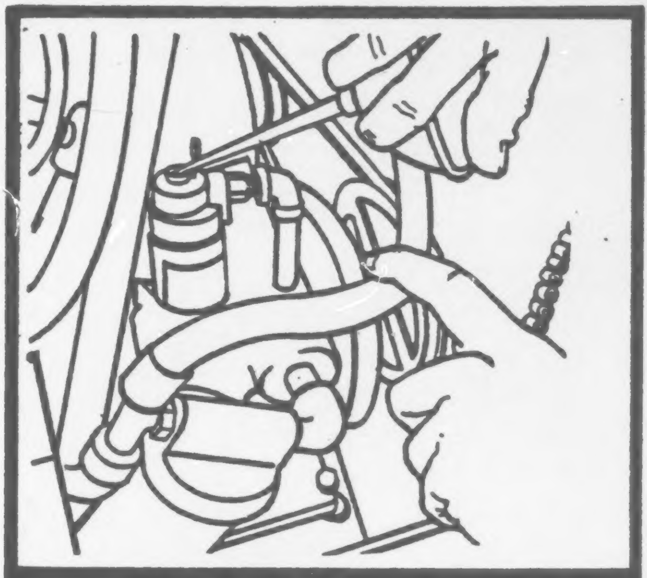


4. OPEN UP THE A.B. DICK LUBRICATION CHART AND, STARTING WITH STEP #1, FOLLOW EACH OF THE STEPS LISTED. EACH STEP NUMBER IS ALSO ILLUSTRATED TO SHOW YOU EXACTLY WHERE TO LUBRICATE EACH PART. USING 20# OIL AND CUP GREASE, DO EACH STEP IN ORDER. BE SURE NOT TO SKIP ANY STEPS.



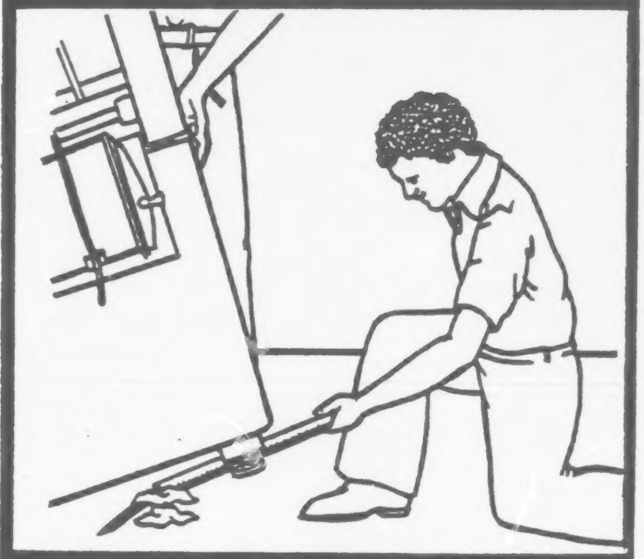
JOB STEPS

5. USING 20# OIL, FILL THE OIL BOTTLE ON THE VACUUM PUMP INSIDE THE MACHINE TO THE MARK SHOWN. REMOVE ANY SCRAP PAPER OR DUST BUILDUP FROM AROUND THE PUMP OR MOTOR WHILE INSIDE THE PRESS.

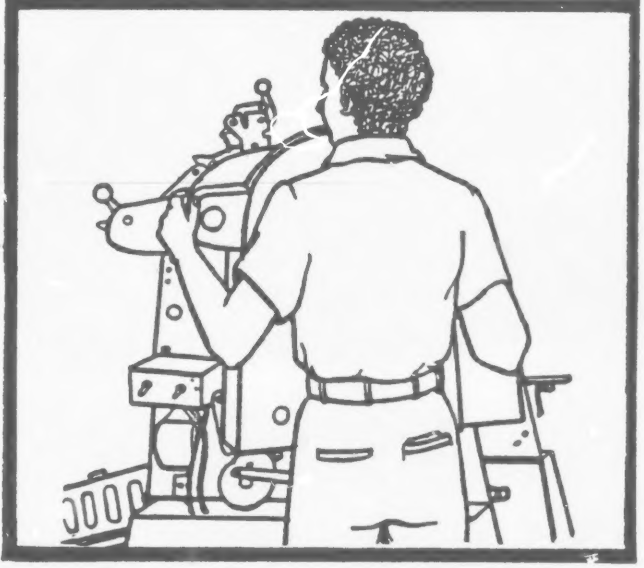


6. CLEAN UNDERNEATH THE PRESS, REMOVING ANY SCRAP PAPER AND DUST BUILDUP.

CAUTION - HAVE SOMEONE HELP YOU TILT BACK THE PRESS FOR A FEW CENTIMETERS WHILE YOU PUSH OUT THE SCRAP WITH A METERSTICK OR RULER.



7. AFTER YOU LUBRICATE THE PRESS, REPLACE ALL OF THE CASES AND CONTROL KNOBS. BE SURE ALL SCREWS ARE SNUG AND TIGHT.

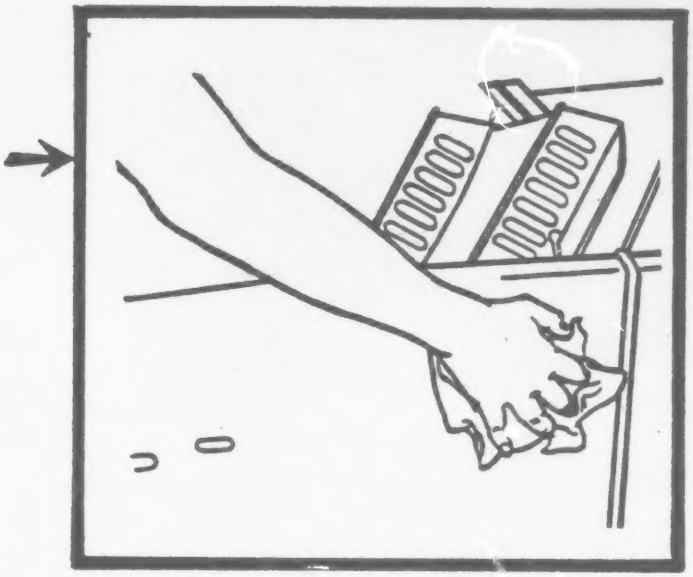


WORD GUIDE

EXPOSED - OPEN, SHOWING, EASILY SEEN, OR REACHED.

TEFLON - PROTECTIVE COATING.

JOB STEPS



8. USING RAG AND BLANKET WASH, CLEAN OFF ALL INK FROM THE CASES AND EXPOSED FRAME. USE SOME OIL ON A CORNER OF THE RAG AND WIPE A VERY THIN LAYER OVER THE ENTIRE CASE AND EXPOSED, TEFLON FRAME. THIS THIN COATING WILL MAKE INK EASIER TO REMOVE IN THE FUTURE.

9. CLEAN YOUR AREA AND EQUIPMENT AND MATERIALS. SECURE YOUR AREA. HAVE YOUR INSTRUCTOR CHECK THE PRESS FOR CREDIT FOR THIS LUBRICATION MOD. KEEP THE LUBRICATION CHART YOURSELF.

10. TAKE THE QUIZ ON THE NEXT PAGE AND CHECK YOUR ANSWERS AFTER YOU'VE FINISHED.

ANSWERS TO SELF-QUIZ

1. 12
2. 3
3. YES
4. 6
5. OSCILLATING
6. OPERATORS
7. ONCE-A-DAY
8. YES
9. GREASE
10. AT LEAST EVERY 250,000 IMPRESSIONS OR ONCE A MONTH.

WORD GUIDE

DISTRIBUTE - HAND OR GIVE OUT; DELIVER.

SELF-QUIZ

DO NOT WRITE ON THIS SHEET. THE ANSWERS ARE ON PAGE FIVE.

1. HOW MANY ROLLERS ARE THERE IN THE A.B. DICK INK-WATER SYSTEM?

2. HOW MANY CYLINDERS ARE THERE IN AN A.B. DICK OFFSET?

3. CAN THE RECEIVING TRAY ASSEMBLY BE EASILY REMOVED FROM THE A.B. DICK FOR LUBRICATION AND CLEANING?

4. HOW MANY SUCKER FEET ARE THERE ON AN A.B. DICK OFFSET?

5. THE TWO ROLLERS ON TOP OF THE PRESS WHICH MOVE BACK AND FORTH TO DISTRIBUTE INK AND WATER ARE CALLED ____________ ROLLERS.

6. THERE ARE TWO SIDES TO ALL PRESSES; THE DRIVE SIDE IS WHERE THE GEARS AND BELTS ARE AND YOU STAND ON THE _________ SIDE.

7. NORMALLY, HOW OFTEN SHOULD AN OFFSET BE CLEANED?

8. SHOULD THE ROLLERS EVER BE WASHED OR RINSED WITH REGULAR WATER?

9. SHOULD GREASE OR OIL BE USED TO LUBRICATE GEARS?

10. HOW OFTEN SHOULD THE OFFSET BE LUBRICATED?

graphics

unit: PRESSWORK

capital area career center

module: 1401 13 218
1401 13 218 3 **date:** 12/77 **level:** II

skill title: ADVANCED PRODUCTION, MAINTENANCE AND JOB ORGANIZATION ON AN OFFSET PRESS

developed & written by: GLEN PETTIT

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO DO ADVANCED PRODUCTION, MAINTENANCE AND JOB ORGANIZATION ON OFFSET PRESSES.

IN ORDER TO DO THIS YOU WILL NEED:

MANY OFFSET PRESSES

AT LEAST 10 PRODUCTION JOBS

ALL PRESS CHEMICALS AND SUPPLIES

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU FOLLOW WRITTEN JOB ENVELOPE INSTRUCTIONS FOR A NUMBER OF LINE JOBS.
2. YOU ORGANIZE YOUR AREA FOR EFFICIENCY AND PRODUCTION.
3. YOU SCHEDULE AND PRODUCE JOBS TO TRADE TIME AND QUALITY STANDARDS.

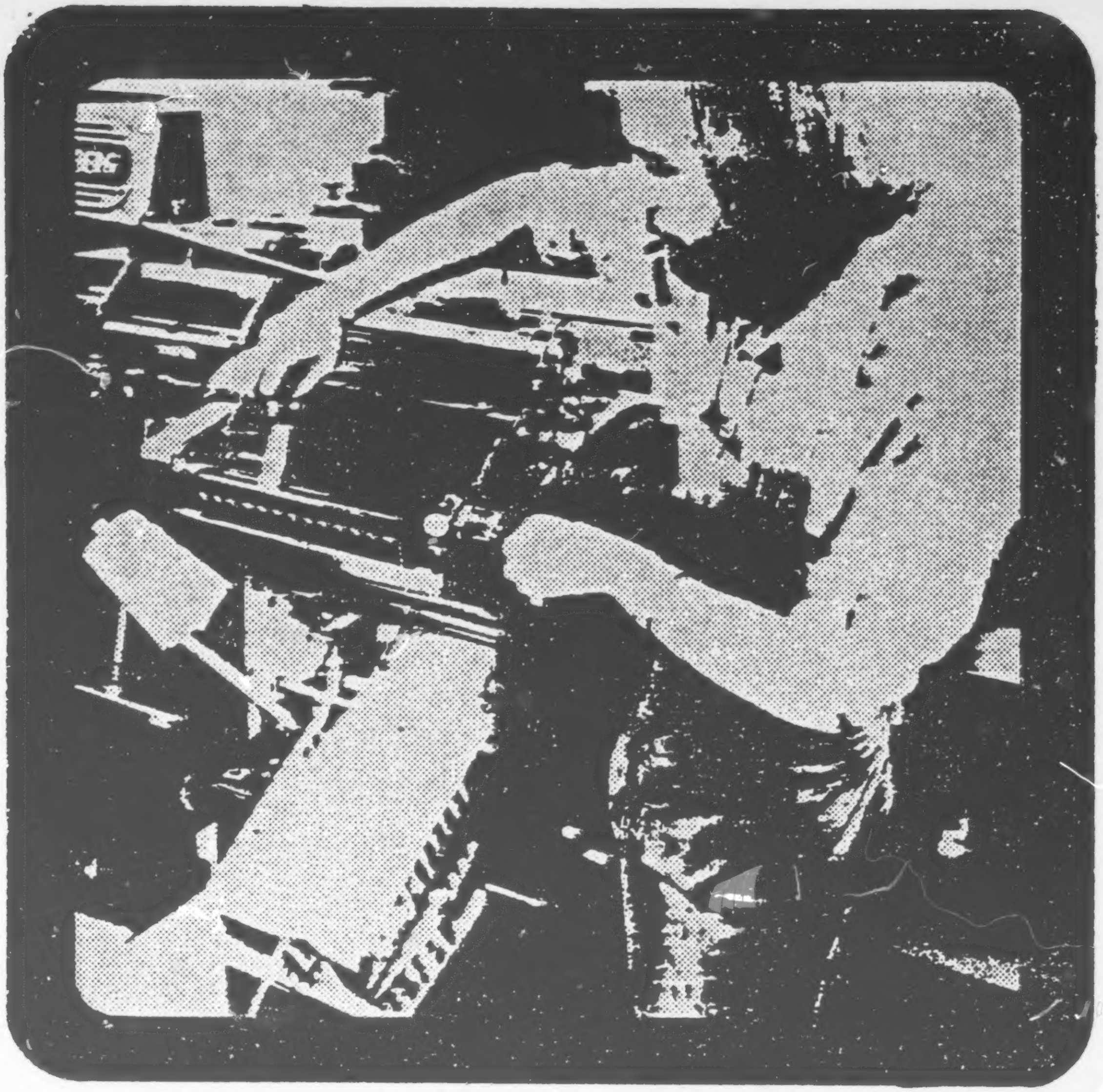
A TAPE OF THIS MODULE IS AVAILABLE.

JOB STEPS

1. BEFORE COMPLETING THIS MODULE, YOU MUST HAVE COMPLETED ALL OTHER OFFSET MODULES IN YOUR PROGRAM.

2. TO COMPLETE THIS MODULE YOU MUST RUN AT LEAST 10 DIFFERENT PRODUCTION JOBS (NEW JOBS, NOT CREDITED TO ANY OTHER PRESS MODULES) WHICH TOTAL UP TO AT LEAST 20 HOURS OF PRODUCTION TIME (NOT INCLUDING DOWN-TIME). KEEP ACCURATE RECORD ON YOUR JOB RECORD SHEET OF ALL PRODUCTION DONE AND KEEP AN EXAMPLE OF EACH JOB RUN. YOUR INSTRUCTOR WILL RECORD A 'PRODUCTION TIME' FOR EACH JOB ON YOUR JOB RECORD SHEET AS YOU DO EACH JOB.

3. THIS WILL BE ONE OF THE LAST MODULES YOU WILL COMPLETE IN YOUR PROGRAM; REVIEW ALL MODULES ON YOUR PRESCRIPTION. YOU MAY REPEAT OR REVIEW ANY MODULES YOU FEEL YOU NEED TO.



graphics

unit: PRESSWORK

capital area career center

1401 13 302
module: 1401 13 302 3 **date:** 7/77 **level:** I

skill title: PREPARING THE SCREEN AND FRAME FOR SCREEN PRINTING

developed & written by: JERRY REIMER

visuals by: MIKE SMITH

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO PREPARE THE SCREEN AND FRAME FOR SCREEN PRINTING.

IN ORDER TO DO THIS YOU WILL NEED:

FRAME WITH BASE
SCREEN STRETCHING TOOL
TRACING PAPER
INDIA INK
INKING PENS
FILM
SCREEN
BLOCK-OUT
MASKING TAPE
SCISSORS
STAPLE GUN
HYDROGEN PEROXIDE
WATER
THERMOMETER
GLASS PLATE
CARDBOARD

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN ATTACH THE SCREEN TO THE FRAME SO THERE ARE NO TEARS OR WRINKLES.

2. YOU CAN TRANSFER YOUR DESIGN FROM THE TRACING PAPER THROUGH THE FILM AND ONTO THE SCREEN.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

POROUS - FULL OF PORES THROUGH WHICH LIQUID CAN FLOW.

VERSATILE - ABLE TO DO MANY THINGS.

INFORMATION

SOMETIMES CALLED SILK SCREEN, THIS METHOD REQUIRES A POROUS STENCIL. A FINE MESH SILK, NYLON, DACRON, STAINLESS STEEL SCREEN, OR OTHER MATERIAL IS MOUNTED ON A FRAME. A STENCIL IS PRODUCED ON THE SCREEN, EITHER MANUALLY OR PHOTOMECHANICALLY (AS IN THIS MOD). THE NON-PRINTING AREAS ARE PROTECTED BY THE STENCIL AND A BLOCK-OUT LIQUID. PRINTING IS DONE ON A SIMPLE PRESS BY FEEDING PAPER UNDER THE SCREEN, APPLYING INK WITH A PAINT-LIKE CONSISTENCY TO THE SCREEN OR FROM AN INKED SQUEEGEE, SPREADING AND FORCING IT THROUGH THE MESH WITH THE RUBBER SQUEEGE.

INEXPENSIVE FOR SHORT-RUNS, SCREEN PRINTING IS ALSO VERSATILE. ANY SURFACE CAN BE PRINTED - WOOD, GLASS, METAL, PLASTIC, FABRIC, CORK, ETC. EVEN WATER - IN ANY SHAPE, DESIGN, THICKNESS, OR SIZE. IT CAN ALSO BE USED FOR BANNERS, CLOTHING, DECALS, POSTERS, 24-SHEET BILLBOARDS, DISPLAYS, MENU COVERS, AND EVEN CUSTOM-DESIGNED WALLPAPERS OR DRAPERIES.

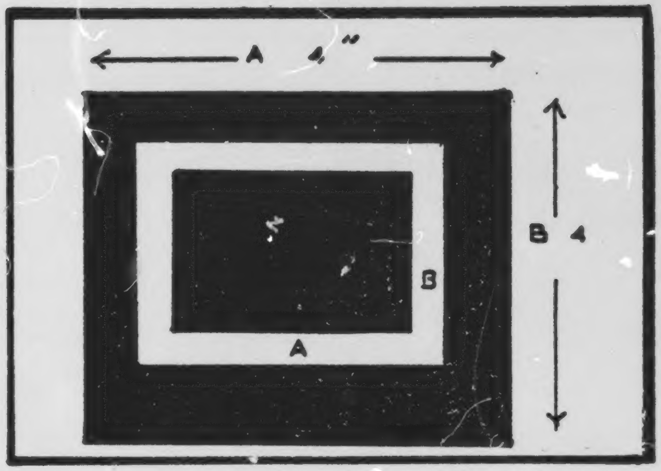
JOB STEPS

PREPARING THE FRAME

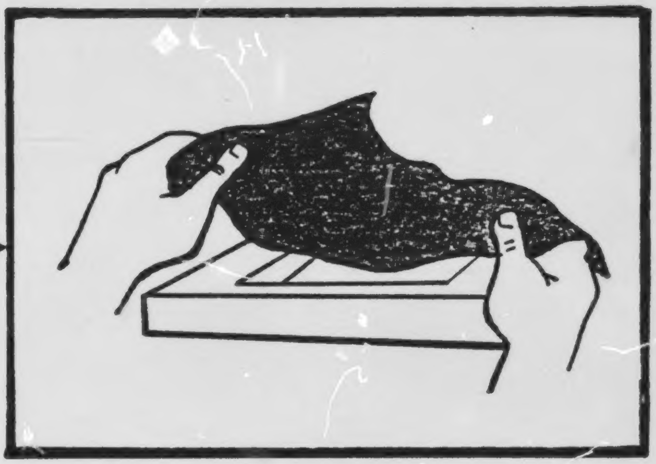
1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

2. MEASURE THE LENGTH AND WIDTH OF THE FRAME.

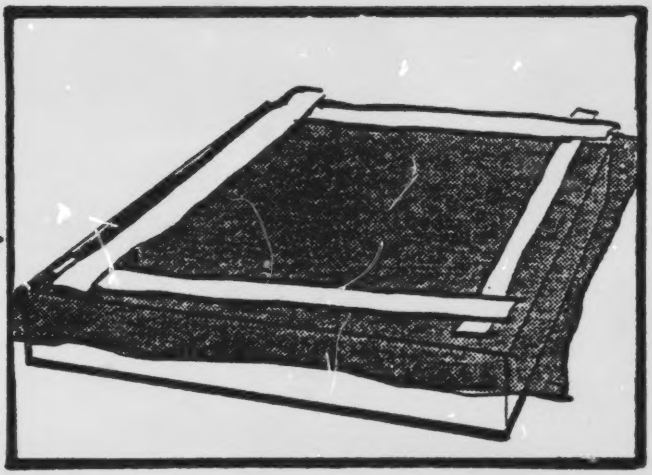
3. ADD FOUR INCHES OF SCREEN MATERIAL TO THE LENGTH AND FOUR INCHES TO THE WIDTH OF THE FRAME. IF THE FRAME IS 8" X 10", THE SCREEN MATERIAL SHOULD BE 12" X 14". USING SCISSORS, CUT THE SCREEN MATERIAL TO SIZE.



4. LAY THE FRAME FLAT ON A TABLE. THEN, LAY THE SCREEN MATERIAL OVER THE FRAME, CENTERING THE MATERIAL ON THE FRAME.



5. USING MASKING TAPE, TAPE A RECTANGLE THE SIZE OF THE FRAME ON THE SCREEN MATERIAL.

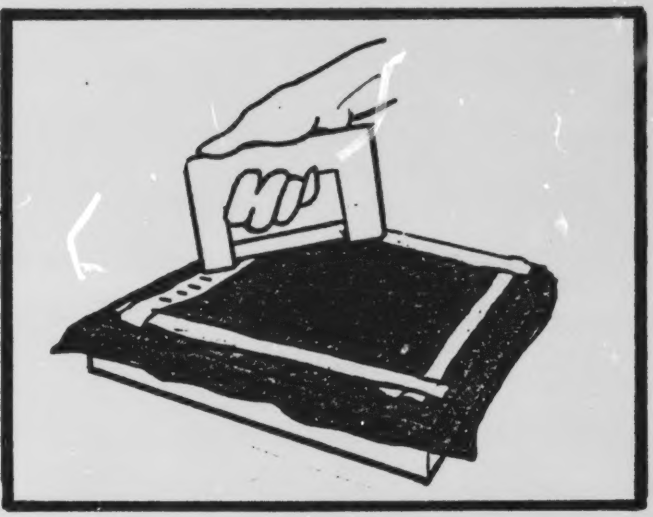


WORD GUIDE

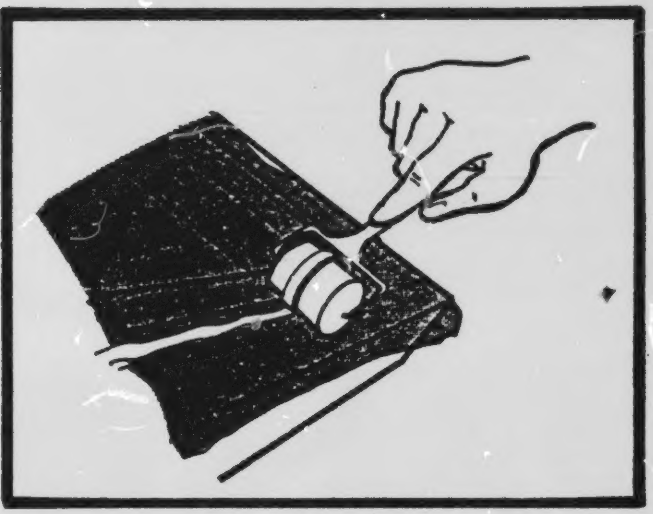
JOB STEPS

EXCESS - EXTRA

6. USING THE STAPLE GUN, STAPLE THE SCREEN MATERIAL ONTO ONE EDGE OF THE FRAME. THE STAPLES GO THROUGH THE MASKING TAPE AND SCREEN, INTO THE FRAME. →

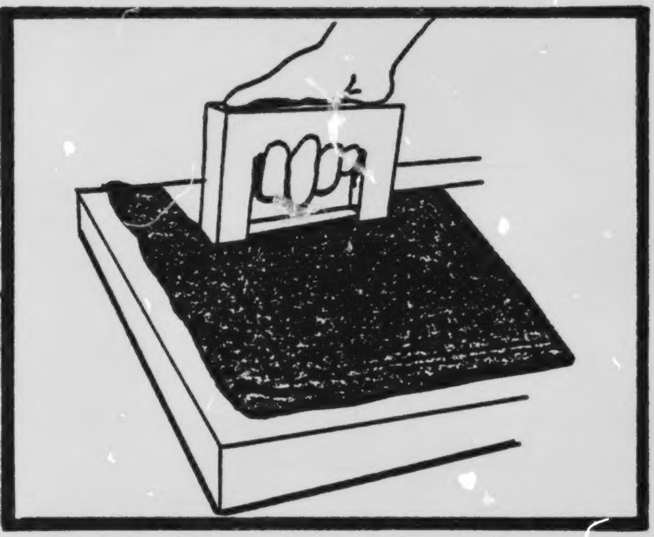


7. USING THE SCREEN STRETCHING TOOL, STRETCH THE SCREEN AWAY FROM THE ONE STAPLED SIDE TO THE OPPOSITE SIDE. KEEP THE SCREEN TIGHT AND STAPLE THE SECOND SIDE. →



8. STRETCH AND STAPLE THE OTHER TWO SIDES. THE SCREEN SHOULD BE TIGHT AND FREE OF ANY WRINKLES.

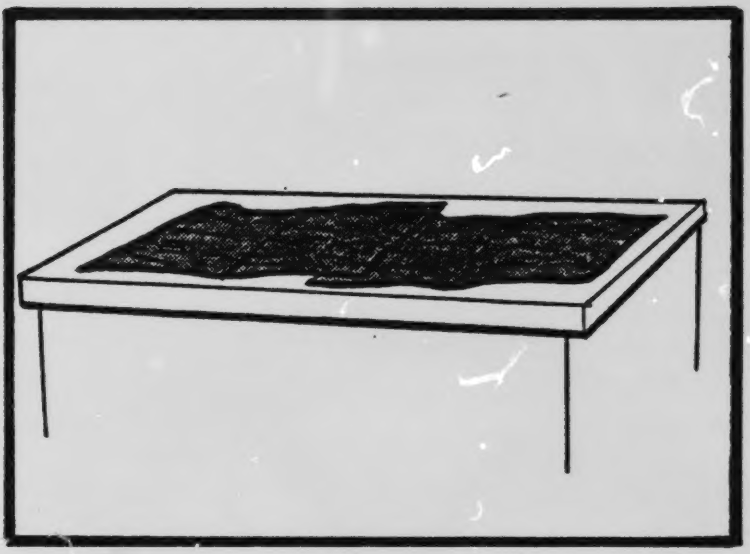
9. ROLL THE EXCESS SCREEN MATERIAL AND STAPLE TO THE FRAME. STAPLES THREE OR FOUR INCHES APART WILL HOLD THE EXCESS MATERIAL. →



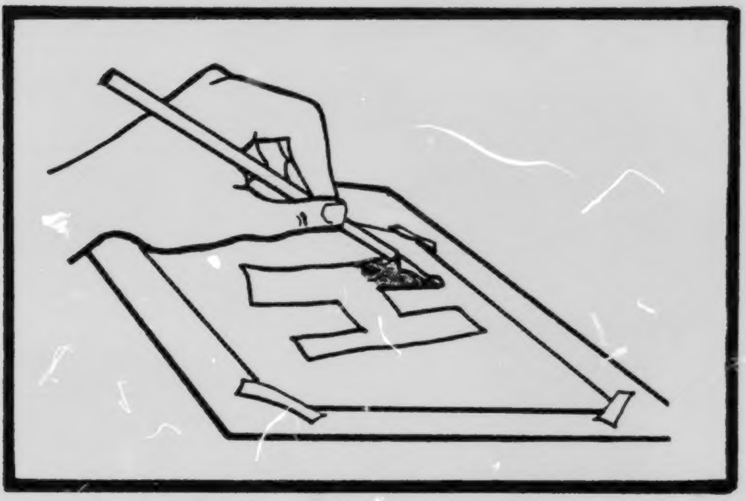
JOB STEPS

TRANSFERRING DESIGN TO SCREEN

1. SPREAD NEWSPAPERS OVER YOUR WORK AREA.

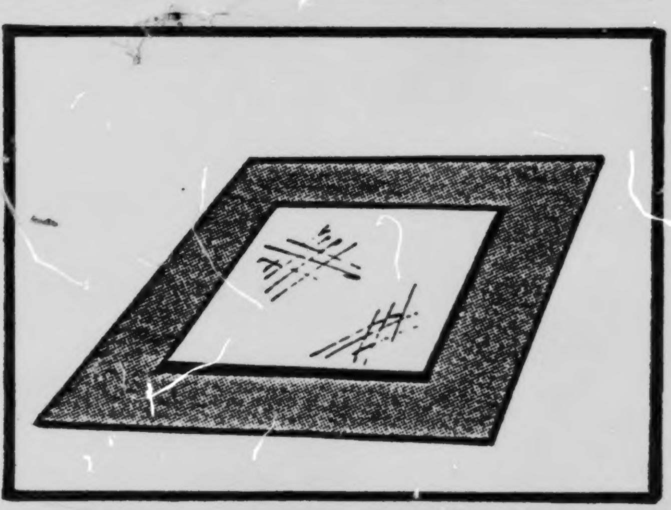


2. USING TRACING PAPER, INDIA INK, AND INKING PENS, TRACE DESIGN FROM ORIGINAL ONTO TRACING PAPER.



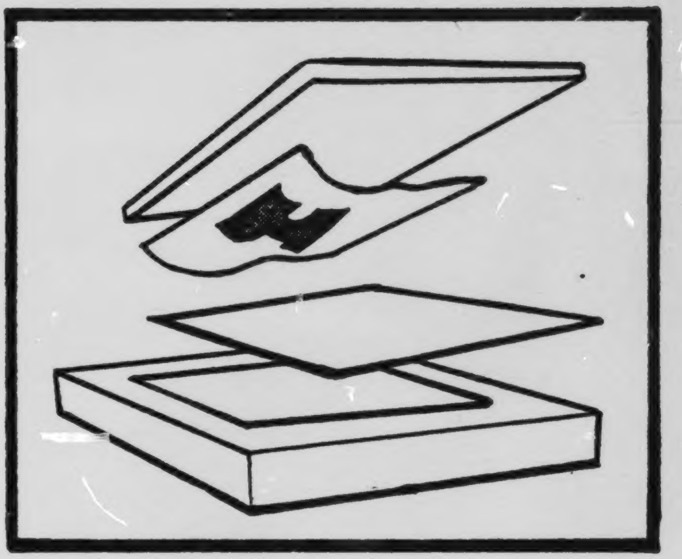
3. CUT A PIECE OF BLUE-POLY 3 PHOTOGRAPHIC STENCIL SLIGHTLY LARGER THAN THE DESIGN. AS THIS IS SENSITIVE TO LIGHT, IT IS BEST TO KEEP IT AWAY FROM LIGHT AS MUCH AS POSSIBLE.

4. PLACE THE BLUE-POLY SHINY-SIDE UP ON A DARK MAT.

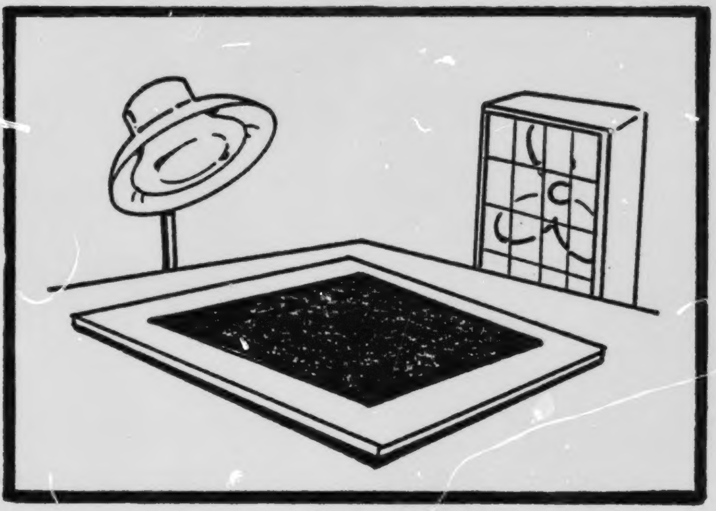


JOB STEPS

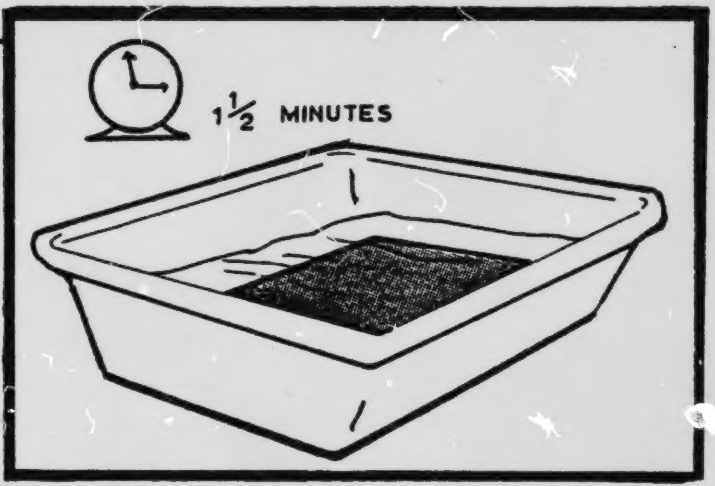
5. PLACE THE TRACING PAPER OR POSITIVE WITH THE DESIGN BACKWARDS (DOWN) OVER THE BLUE-POLY STENCIL. THE LIGHT MUST GO THROUGH THE POSITIVE TO PLASTIC BASE OF THE BLUE-POLY.



6. EXPOSE THE BLUE-POLY, DESIGN, AND GLASS TO LIGHT FOR 90 SECONDS.



7. DEVELOP THE FILM IN A SOLUTION OF HYDROGEN PEROXIDE AND WATER FOR ABOUT ONE AND A HALF MINUTES. THE SOLUTION SHOULD BE MIXED 1:3 (ONE PART HYDRIGEN PEROXIDE TO THREE PARTS COOL TAP WATER) OR YOU CAN USE THE SPECIAL A & B DEVELOPER MADE FOR DEVELOPING BLUE-POLY; READ THE INSTRUCTIONS ON THE PACKAGE WHEN MIXING.



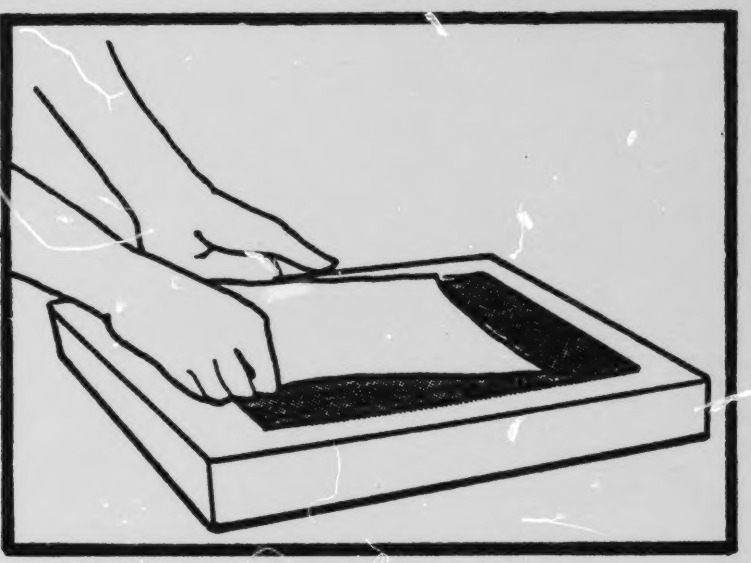
8. RINSE THE FILM IN A SPRAY OF 100° F. WATER. THE UNEXPOSED AREAS OF THE FILM WILL BE REMOVED WITH THE SPRAY OF WATER.

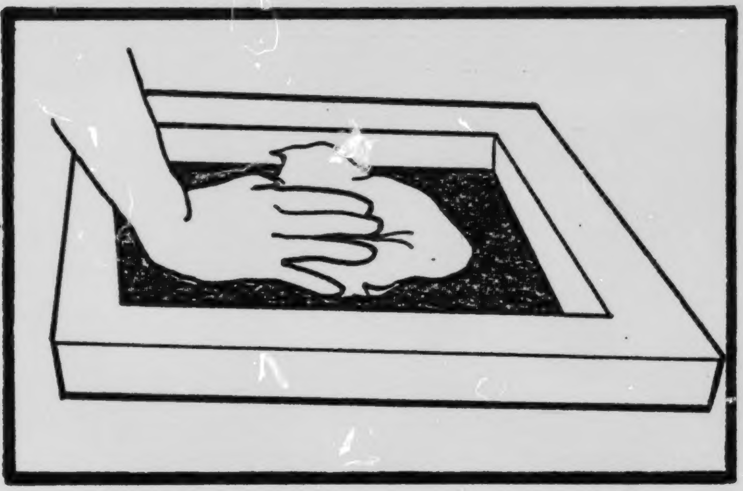
WORD GUIDE

BLOCK-OUT - LIQUID WHICH, WHEN DRY, "BLOCKS" INK FROM GOING THROUGH SCREEN.

JOB STEPS

9. VERY GENTLY, LAY THE FILM ON THE SCREEN, SHINY-SIDE UP. DO NOT MOVE THE FILM ONCE IT IS ON THE SCREEN.

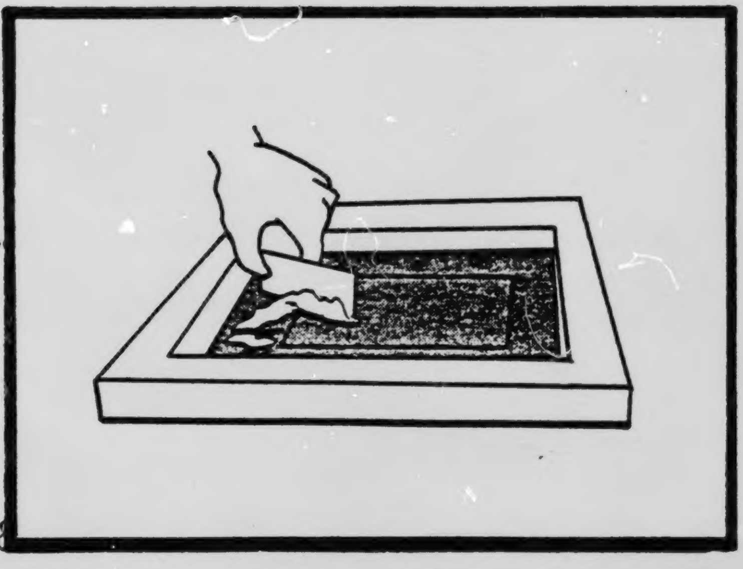




10. TURN THE FRAME OVER SO THE SCREEN IS DOWN. USING PAPER TOWELS, BLOT-DRY THE SCREEN. PRESS DOWN TO DRY EXCESS MOISTURE; DO NOT RUB THE SCREEN.

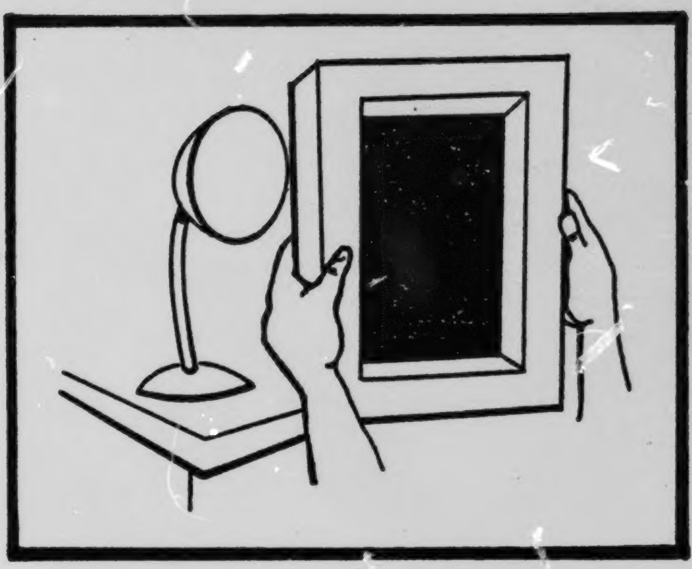
11. ALLOW THE FILM TO DRY COMPLETELY. WHILE THE FILM IS DRYING, CUT THE REQUIRED AMOUNT OF PAPER STOCK TO SIZE. AS A BEGINNER, IT MIGHT BE WISE TO CUT A FEW EXTRAS.

12. POUR THE BLOCK-OUT LIQUID (SIZE OF A HALF DOLLAR) ONTO THE SHINY-SIDE OF THE FILM. USING A 2" X 2" PIECE OF CARDBOARD, SPREAD THE BLOCK-OUT OVER THE SCREEN AND ALLOW TO DRY.



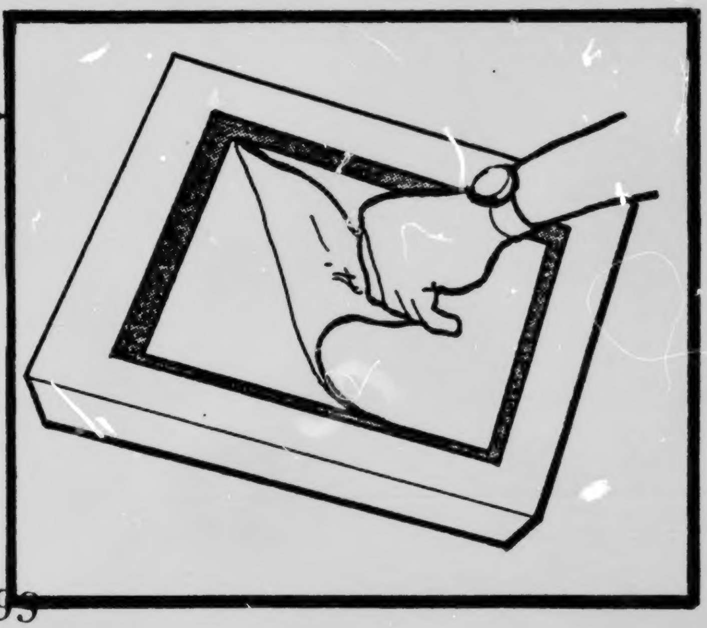
JOB STEPS

13. HOLD THE SCREEN UP TO A LIGHT AND LOOK FOR HOLES. ALL HOLES MUST BE COVERED WITH BLOCK-OUT TO KEEP THE INK FROM PASSING THROUGH. ➜



14. FOR SMALL PINHOLES, USE A SMALL BRUSH AND BLOCK-OUT. THEN, ALLOW TO DRY. THE SCREEN SHOULD BE FREE OF ANY PINHOLES AND COMPLETELY DRY AT THIS POINT.

15. FOR THE INK TO PASS THROUGH THE FILM, YOU MUST REMOVE THE PLASTIC BACKING OF THE FILM. LAY THE FRAME SO THE FILM'S SHINY-SIDE FACES UP. STARTING FROM A CORNER, PEEL OFF THE BACKING VERY GENTLY. THE SCREEN/FRAME IS NOW READY FOR PRINTING. ➜



16. PUT THE LID ON THE BLOCK-OUT, WASH OUT THE BRUSH AND CLEAN UP THE AREA. MAKE SURE ALL FILM IS PUT AWAY.

17. HAVE THE INSTRUCTOR CHECK YOUR WORK.

graphics

unit: PRESSWORK

capital area career center

1401 13 303

module: 1401 13 303 3 **date:** 7/77 **level:** I

skill title: PRODUCING A SINGLE COLOR SCREEN JOB

developed & written by: JERRY REIMER

visuals by: MIKE SMITH

200

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO MAKE A SINGLE COLOR SCREENED PRINT.

IN ORDER TO DO THIS YOU WILL NEED:

SQUEEGEE

PAPER STOCK

STOCK GUIDES

INK

MINERAL SPIRITS

MASKING TAPE

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN MAKE A PRINT WHICH IS EXACTLY LIKE THE DESIGN (EXCEPT FOR COLOR), AND THERE ARE NO PINHOLES OR BLEEDING EDGES ON THE PRINT.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

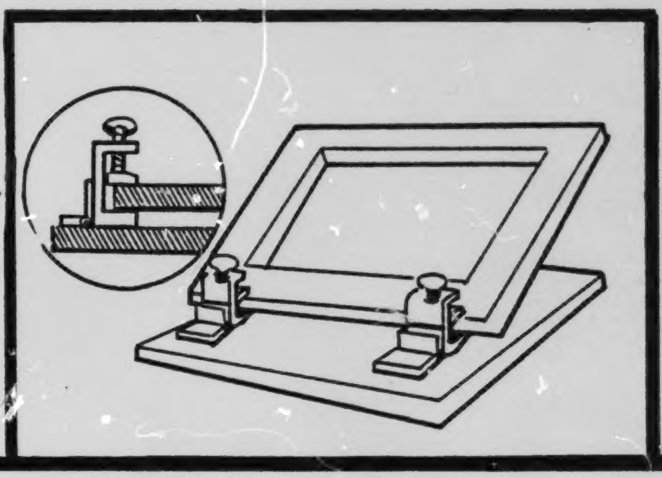
THE ONLY WAY TO COMPLETE THE PRINT IS IF THE FIRST MODULE (1401 13 302) IS DONE. THE DESIGN MUST BE TRANSFERRED TO THE FILM WHICH IN TURN IS PUT ON THE SCREEN. HAVING DONE THIS, YOU ARE NOW READY TO BEGIN.

THIS MODULE WILL GIVE YOU ENOUGH INFORMATION FOR YOU TO MAKE SEVERAL PRINTS USING YOUR PREPARED SCREEN. YOU COULD (IF YOU WANT) PRINT ON GLASS, PLASTIC, CARDBOARD, PAPER, CLOTH, AND EVEN METAL. THE GOOD THING ABOUT SCREEN PRINTING IS IT CAN BE USED TO PRINT ON MOST ANY SURFACE, EVEN WATER (FIRST THE WATER MUST BE FROZEN, THEN PRINT AS USUAL USING A RUBBER BASED INK. THE ICE MELTS AND THE INK FLOATS ON TOP).

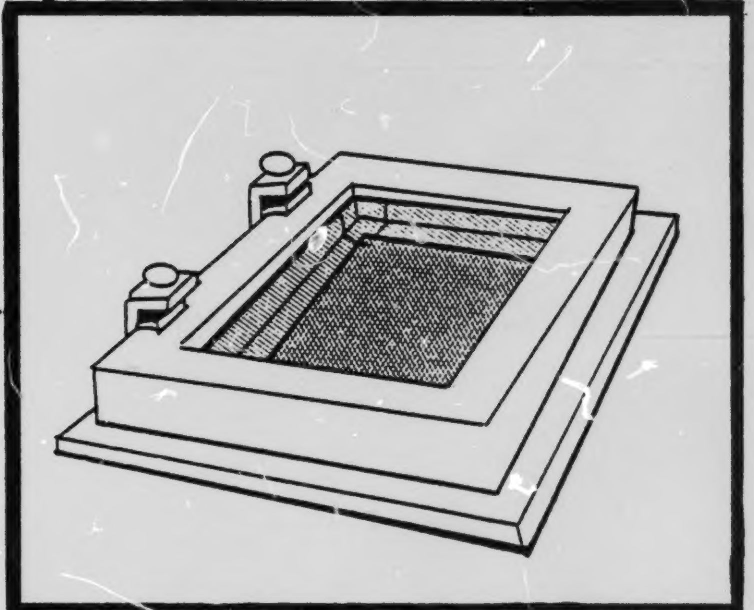
ONE OF THE DRAWBACKS OF SCREEN PRINTING IS THAT IT IS SLOW, BUT YOU CAN BE THE JUDGE OF THAT.

JOB STEPS

1. ATTACH THE FRAME TO THE BASE. THE BASE IS THE HARDBOARD PIECE THAT THE SCREEN/FRAME HINGES ON. THE BASE ALSO WILL HOLD THE STOCK FOR PRINTING.

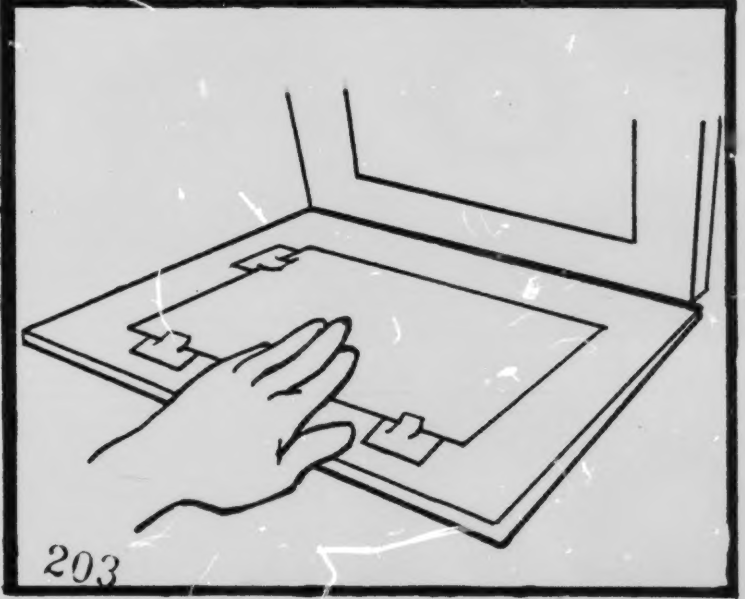


2. TO PREVENT THE POSSIBILITY OF INK OOZING THROUGH THE SCREEN, APPLY MASKING TAPE TO THE INSIDE OF THE FRAME. APPLY THE TAPE SO 1/2 THE WIDTH OF THE TAPE IS ON THE FRAME AND THE OTHER HALF IS ON THE SCREEN. ALSO TAPE THE FILM SO IT OVERLAPS THE EDGE OF THE FILM, BUT TAKE CARE NOT TO COVER ANY DESIGN.



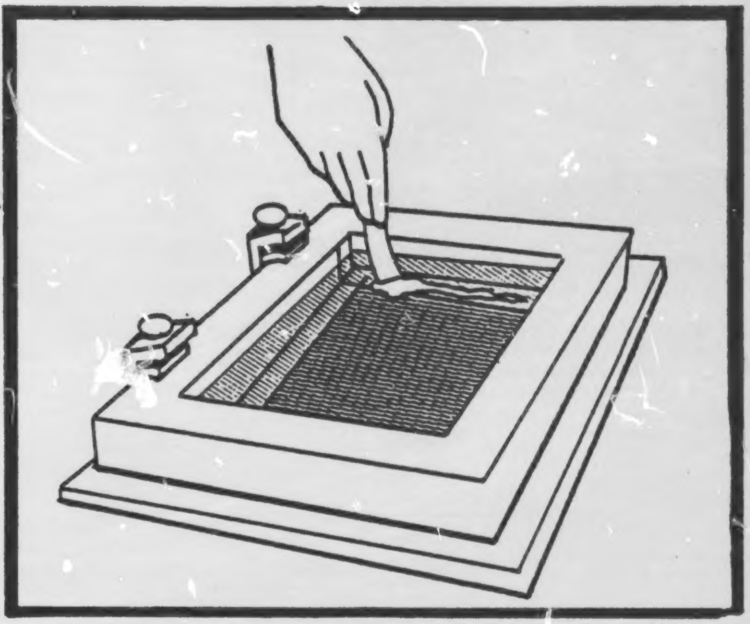
3. GET THREE STOCK GUIDES. WITH A PIECE OF PAPER STOCK CENTERED UNDER THE DESIGN, TAPE THE GUIDES TO THE BASE (TAPE TWO GUIDES ON THE LONG SIDE). THIS WILL MAKE IT EASY TO PUT THE S[illegible]CK IN THE SAME POSITION AFTER EACH PRINT.

4. GET THE INK AND SQUEEGEE.

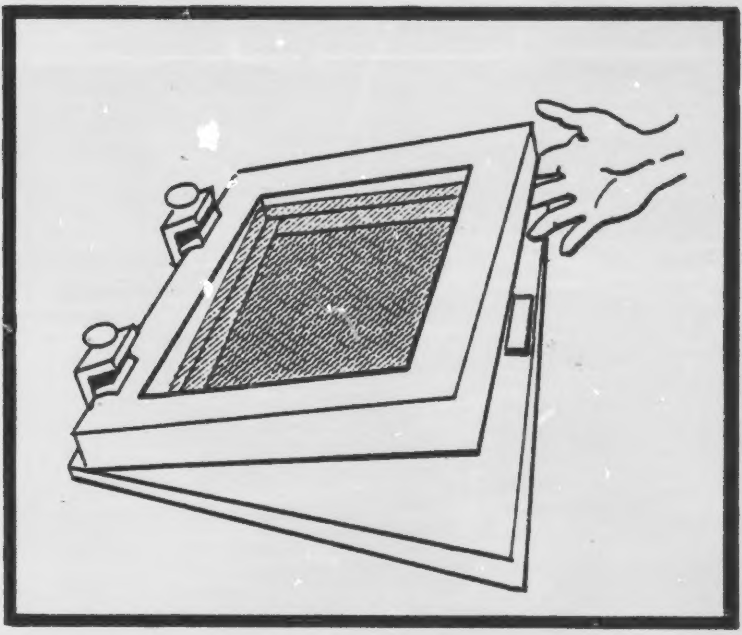


JOB STEPS

5. OPEN THE CAN OF POSTER INK AND APPLY A SMALL AMOUNT TO THE TOP OF THE SCREEN, ALONG ONE EDGE.

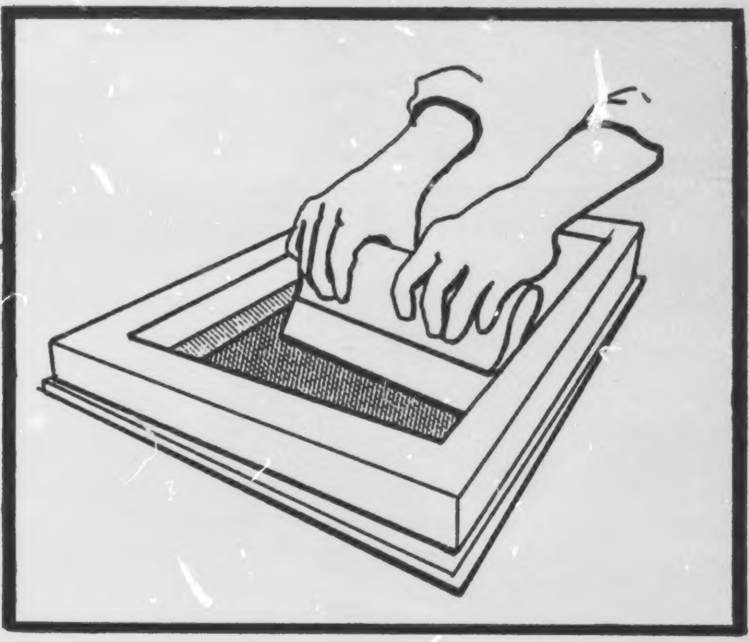


6. LOWER THE FRAME ON THE BASE.

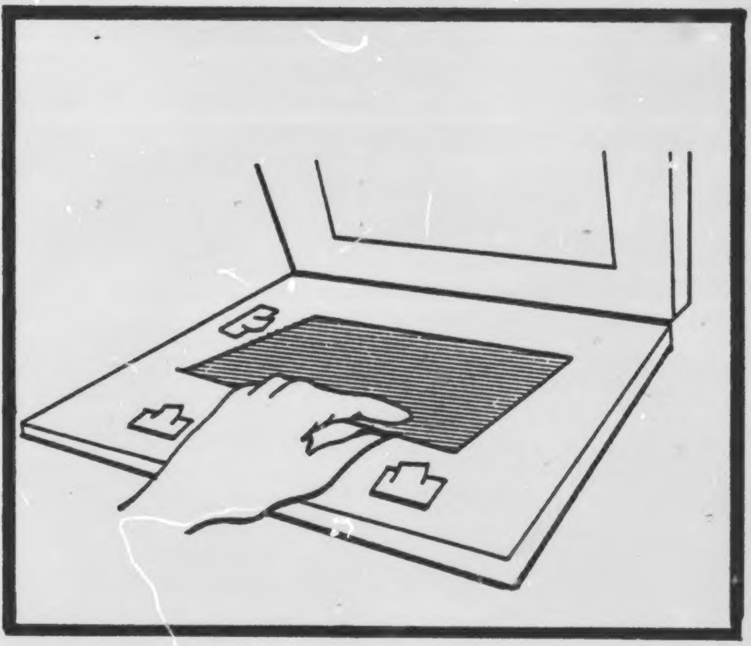


JOB STEP

7. PULL THE SQUEEGEE ACROSS THE DESIGN, USING FIRM AND STEADY PRESSURE.



8. LIFT THE SCREEN AND REMOVE THE PRINT.



JOB STEPS

WORD GUIDE

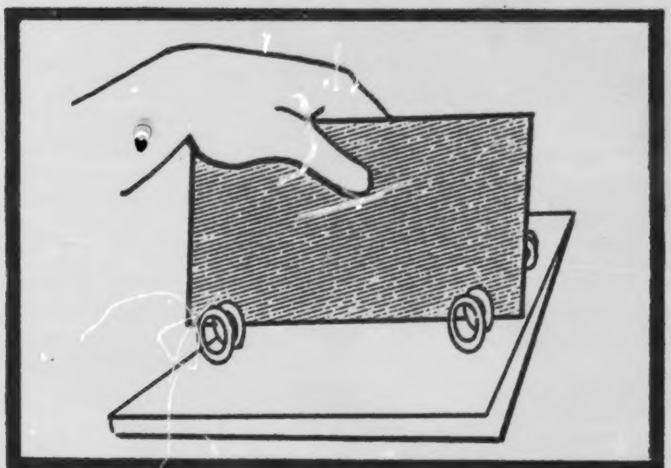
MINERAL SPIRITS - A FLUID WHICH IS USED TO CLEAN UP THE INK.

STOCK GUIDES - THICK PAPER TABS THAT HOLD THE STOCK IN PLACE.

9. CHECK THE PRINT FOR CORRECT LOCATION OF DESIGN, ADJUST THE GUIDES IF NECESSARY.

10. LOOK OVER THE PRINT TO SEE IF THERE ARE ANY PROBLEMS. ASK INSTRUCTOR FOR ASSISTANCE IF THERE ARE.

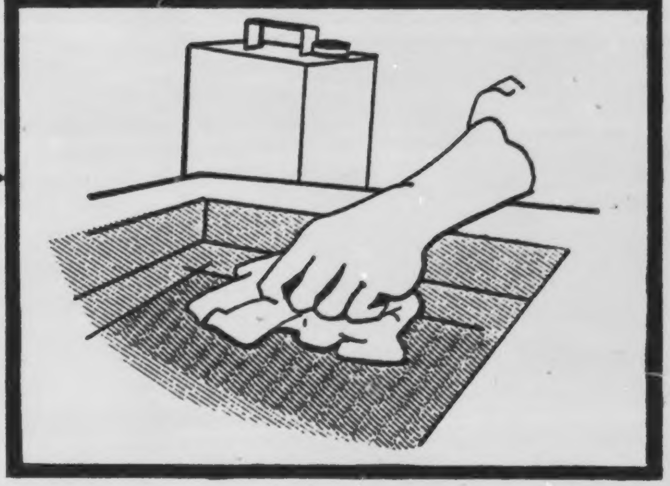
11. MAKE THE NECESSARY NUMBER OF PRINTS. AFTER PRINTING EACH COPY, PLACE IT IN A DRYING RACK.



12. HAVE INSTRUCTOR CHECK YOUR WORK.

13. CLEAN UP THE SCREEN WITH MINERAL SPIRITS AND RAGS. DO NOT USE WATER TO CLEAN UP; THIS WILL DESTROY THE FILM AND BLOCK-OUT. IF YOU ARE SURE YOU'LL NEVER NEED THE DESIGN AGAIN, THEN USE WATER TO REMOVE DESIGN AND BLOCK-OUT.

THE SCREEN AND FRAME CAN BE USED OVER AND OVER AGAIN AFTER A THOROUGH CLEANING.



14. PUT THE LID ON THE INK, CLEAN THE SQUEEGEE, CLEAN UP THE AREA, AND PUT AWAY ALL THE MATERIALS.

15. IF YOU ARE READY, GO ON TO THE NEXT MODULE, PRODUCING A MULTICOLOR SCREENED PRINT. (1401 13 304)

graphics

unit: PRESSWORK

capital area career center

1401 13 304
module: 1401 13 304 3 **date:** 7/77 **level:** II

skill title: PRODUCING A MULTI-COLOR SCREENED JOB

developed & written by: JERRY REIMER

visuals by: MIKE SMITH

WORD GUIDE

REGISTRY - ALIGNMENT OF TWO OR MORE COLORS.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO MAKE A MULTI-COLORED SCREENED PRINT.

IN ORDER TO DO THIS YOU WILL NEED:

- SQUEEGEE
- INK
- MINERAL SPIRITS
- PAPER STOCK
- STOCK GUIDES
- MASKING TAPE
- FILM
- TRACING PAPER
- INDIA INK
- INKING PENS
- HYDROGEN PEROXIDE
- WATER
- THERMOMETER
- GLASS PLATE
- CARDBOARD
- BLOCK-OUT

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN PRODUCE A SCREENED PRINT WITH MORE THAN ONE COLOR.
2. YOUR PRINT HAS NO PINHOLES AND IS NEAT WITH ACCURATE REGISTRY.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

STENCIL - A COPY OF THE ORIGINAL WHICH ALLOWS INK TO PASS THROUGH IN CERTAIN AREAS. FOR OUR PURPOSES, FILM IS THE STENCIL.

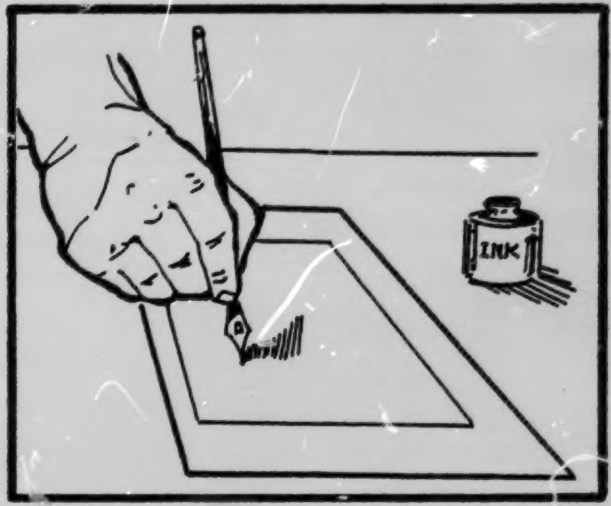
INFORMATION

TO COMPLETE YOUR TASK HERE, YOU NEED THE SKILLS YOU DEVELOPED IN MODULES 1401 13 302 AND 1401 13 303. WITH PRACTICE, MAKING MULTI-COLOR PRINTS WILL BE EASY. REMEMBER: YOU MUST MAKE A SEPARATE STENCIL FOR EACH SEPARATE COLOR. THE PROBLEM IS: DO YOU MAKE A DIFFERENT FRAME FOR EACH STENCIL OR DO YOU TRY TO FIT ALL THE STENCILS ON ONE FRAME? IF YOU CAN FIT ALL THE STENCILS ON THE SCREEN WITH PLENTY OF ROOM, THEN DO THIS. THE STENCILS SHOULD BE NO CLOSER TO THE FRAME OR OTHER STENCILS THAN ONE INCH. THIS IS ENOUGH ROOM FOR TAPE WHEN MASKING THE STENCILS. MASKING MEANS TO COVER THE STENCIL WHEN NOT USING THEM. IF YOU CANNOT FIT ALL THE STENCILS ON ONE FRAME, THEN MAKE MORE FRAMES.

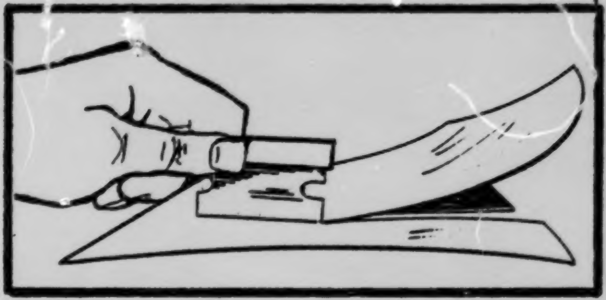
JOB STEPS

1. TAKE ALL YOUR EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

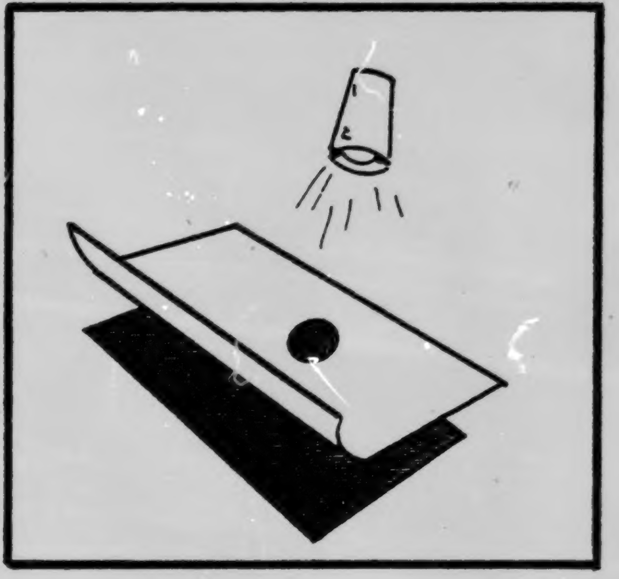
2. CHOOSE THE DESIGN: DECIDE HOW MANY COLORS YOU WANT TO USE AND FIGURE OUT WHICH COLOR WILL GO WHERE IN THE PRINT. THEN, WITH TRACING PAPER, INDIA INK AND INKING PENS, MAKE A SEPARATE TRACING FOR EACH AREA OF THE DRAWING WHICH WILL BE A DIFFERENT COLOR. →



3. FOR EACH TRACING, CUT A PIECE OF FILM. THE FILM SHOULD BE CUT SLIGHTLY LARGER THAN THE TRACING. →

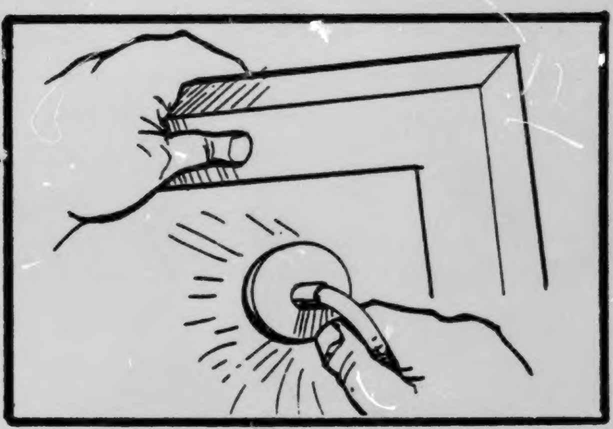


4. RETURN THE FILM TO IT'S CONTAINER. EXPOSE THE FILM THROUGH THE TRACING (CONSULT THE INSTRUCTOR FOR EXPOSURE TIMES). →

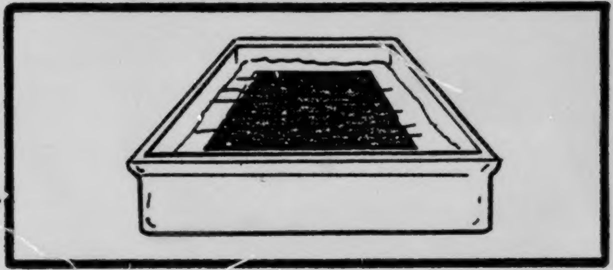


JOB STEPS

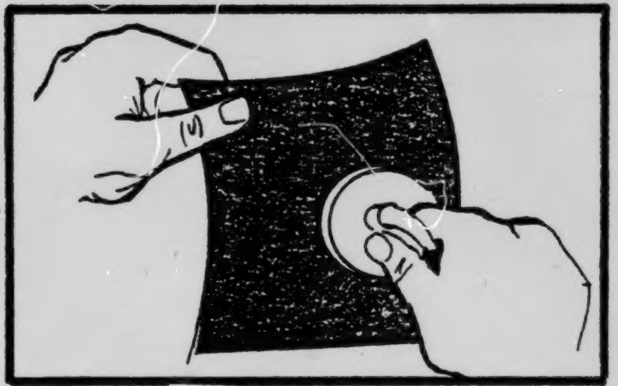
5. WHILE THE FILM IS BEING EXPOSED, SPRAY THE SCREEN WITH WATER. SHAKE OFF THE EXCESS WATER. THEN, LAY THE FRAME ON A TABLE WITH THE SCREEN-SIDE UP.



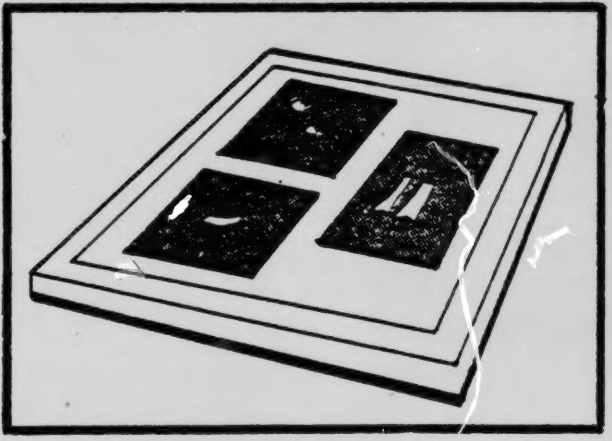
6. DEVELOP THE FILM IN A SOLUTION OF ONE PART HYDROGEN PEROXIDE AND THREE PARTS COOL TAP WATER. DEVELOP FOR ONE AND A HALF MINUTES.



7. RINSE THE FILM IN A SPRAY OF 100 DEGREE F. WATER. LAY THE STENCILS (FILM) ON THE SCREEN, SHINY-SIDE UP.



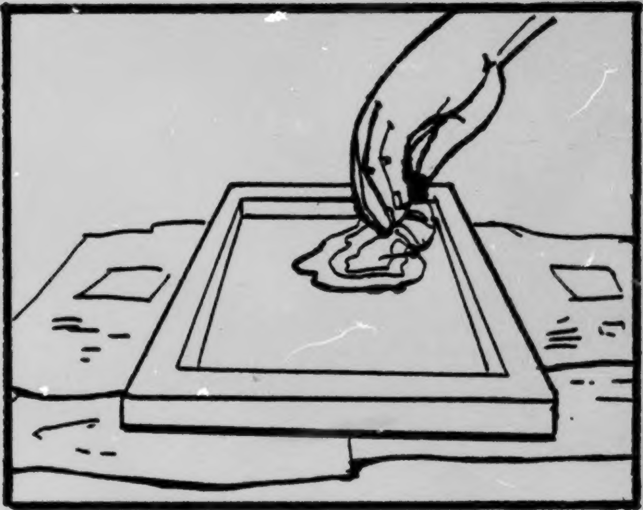
8. EITHER PUT ALL THE STENCILS ON ONE SCREEN OR ON SEVERAL SCREENS. THE CHOICE DEPENDS ON WHETHER OR NOT YOU CAN FIT THE STENCILS ON THE SCREEN. REMEMBER: THERE SHOULD BE AT LEAST ONE INCH BETWEEN THE STENCILS AND FRAME OR BETWEEN OTHER STENCILS.



9. PLACE SOME NEWSPAPERS OVER THE TABLE. ONCE ALL THE STENCILS ARE IN PLACE ON THE FRAME, TURN THE FRAME OVER (SCREEN SIDE DOWN).

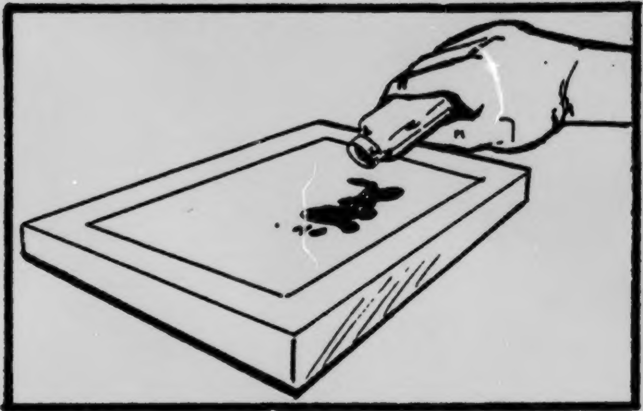
JOB STEPS

10. LAY SOME PAPER TOWELS ON THE SCREEN AND BLOT DRY. DO NOT RUB THE SCREEN. ALLOW TO DRY COMPLETELY. →

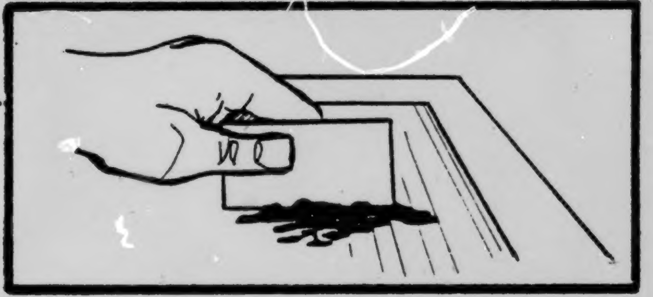


11. CUT THE REQUIRED AMOUNT OF PAPER STOCK. IT WOULD BE WISE TO CUT SOME EXTRA.

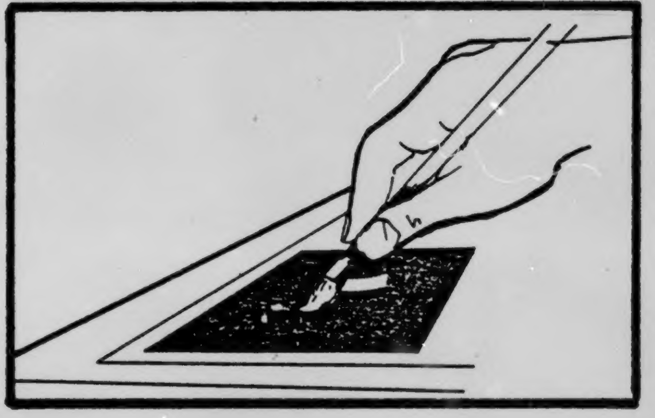
12. POUR THE BLOCK-OUT FLUID ON THE SHINY SIDE OF THE STENCILS (THE SIZE OF A HALF DOLLAR WILL DO). →



13. WITH A 2" X 2" PIECE OF CARDBOARD, SPREAD THE BLOCK-OUT OVER THE ENTIRE SIDE OF SCREEN. ALLOW TO DRY. →



14. INSPECT THE SCREEN FOR PINHOLES. TOUCH-UP ANY HOLES NOT PART OF THE STENCIL WITH BLOCK-OUT. ALLOW TO DRY. →



NOTE: DO NOT FORGET TO TAPE THE INSIDE EDGES OF THE SCREEN, AND ALSO THE EDGES OF THE STENCILS. THE MASKING TAPE PREVENTS INK FROM COMING THROUGH THE SCREEN IN UNWANTED AREAS.

WORD GUIDE

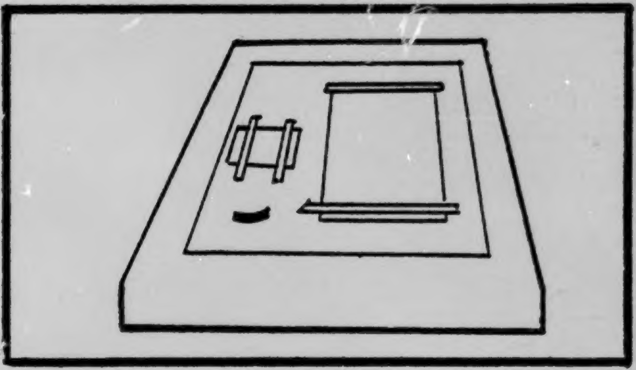
MASK - USING MASKING TAPE AND PAPER TO KEEP INK FROM GETTING THROUGH UNWANTED AREAS.

ALIGNMENT - PROPER POSITIONING.

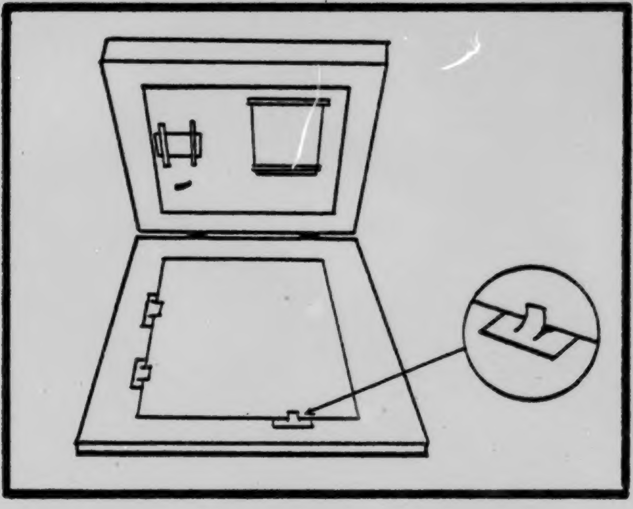
JOB STEPS

15. WITH MASKING TAPE AND SCRAP PAPER, MASK THE AREAS WHICH YOU WILL NOT BE PRINTING YET.

16. PEEL OFF THE SHINY SIDE OF THE FIRST STENCIL. PLACE THE FRAME ON THE TABLE WITH THE SCREEN-SIDE DOWN.

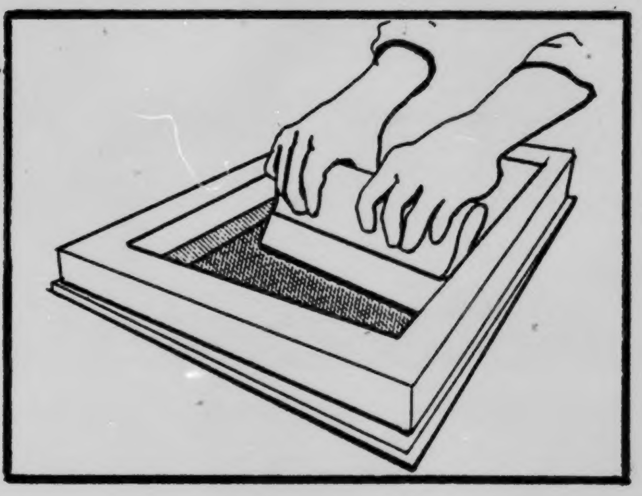


17. ATTACH THE FRAME TO THE BASE. THEN, LAY A PIECE OF PAPER STOCK ON THE BASE. PLACE THE THREE STOCK GUIDES AROUND THE STOCK, TWO GUIDES FOR ONE LONG SIDE AND ONE GUIDE FOR A SHORT SIDE.



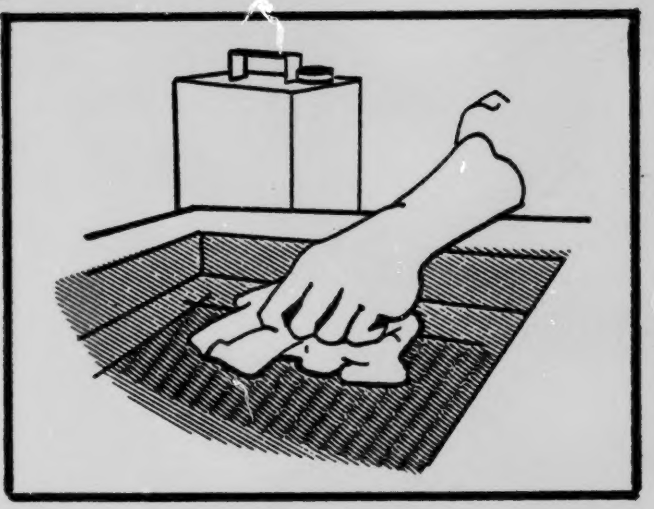
18. LOWER THE FRAME TO THE BASE AND APPLY INK TO THE SQUEEGEE. USING MODERATE PRESSURE, DRAW THE SQUEEGEE ACROSS THE STENCIL. CHECK THE PRINT FOR CORRECT ALIGNMENT. MOVE THE GUIDES TO GET THE CORRECT POSITION OF THE PRINT ON THE PAPER.

19. ONCE THE POSITION IS CORRECT, PRINT ALL THE COPIES FOR THAT COLOR. AFTER PRINTING EACH COPY, PLACE EACH IN A DRYING RACK.



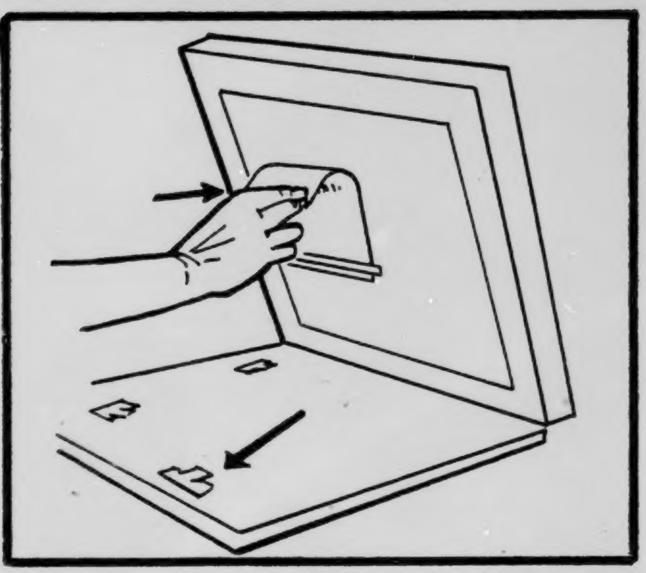
JOB STEPS

20. WITH MINERAL SPIRITS AND A RAG, CLEAN THE SQUEEGEE, FRAME, AND SCREEN OF THE INK FROM THE FIRST COLOR.

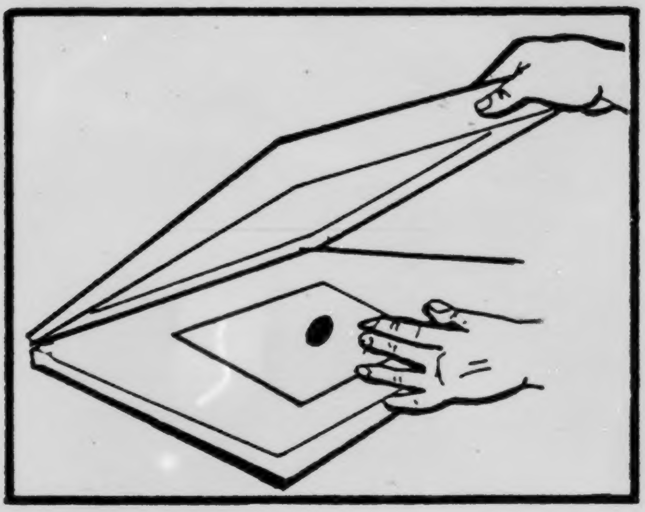


21. MASK THE STENCIL YOU JUST COMPLETED.

22. REMOVE THE MASKING PAPER FOR THE SECOND COLOR AND REMOVE THE STOCK GUIDES FROM THE BASE.



23. WITH ONE OF THE DRIED PRINTS ON THE BASE, LOWER DOWN THE FRAME. ALIGN THE PRINT UNDER THE SECOND STENCIL. THEN, RAISE THE FRAME AND REPLACE THE STOCK GUIDES AROUND THE PRINT.

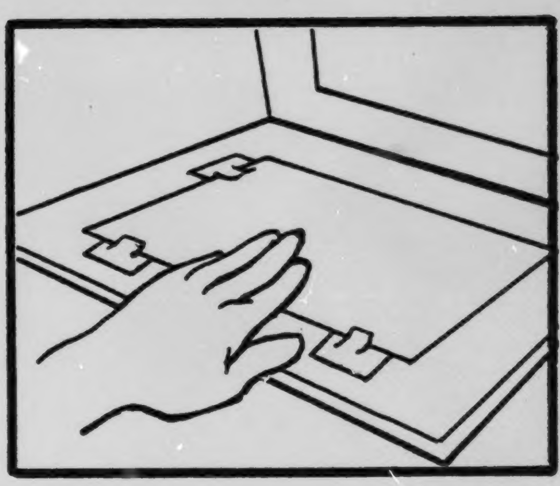


24. APPLY SECOND COLOR INK TO THE SQUEEGEE.

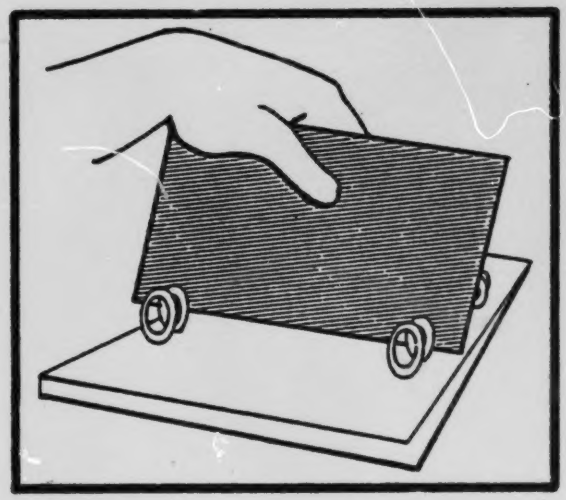
25. LOWER THE FRAME. WITH MODERATE PRESSURE, PULL THE SQUEEGEE OVER THE STENCIL.

JOB STEPS

26. RAISE THE FRAME AND CHECK THE PRINT FOR CORRECT REGISTRY. ADJUST THE STOCK GUIDES TO CORRECT FOR REGISTRY. →



27. ONCE YOU HAVE GOTTEN THE CORRECT REGISTRY, PRINT ALL THE COPIES IN THE SECOND COLOR. AFTER PRINTING EACH COPY, PLACE IT IN A DRYING RACK TO GIVE THE INK A CHANCE TO DRY. →



28. REPEAT STEPS 33-43 FOR THE THIRD COLOR. FOR EACH ADDITIONAL COLOR, FOLLOW STEPS 33-43. YOU ARE DONE WHEN YOU HAVE MADE THE REQUIRED NUMBER OF MULTI-COLOR PRINTS (WITH GOOD REGISTRY) AND CLEANED UP THE AREA. IF YOU PLAN ON USING THE FRAME LATER, CLEAN IT NOW; IT IS MUCH EASIER TO CLEAN WHEN THE INK IS STILL WET.

graphics

unit: PRESSWORK

capital area career center

1401 13 306
module: 1401 13 306 3 date: DECEMBER 1977 level: III

skill title: OPERATION OF THE AUTOMATIC SCREEN PRESS

developed & written by: GLEN PETTIT

visuals by: STEVE BRAMER

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO SET-UP, ADJUST, OPERATE, LUBRICATE AND CLEAN-UP AN AUTOMATIC SCREEN PRESS.

IN ORDER TO DO THIS YOU WILL NEED:

AN AUTOMATIC SCREEN PRESS

SCREEN FRAME AND MASKED STENCIL

INK AND BASIC TOOLS

PAPER

WE WILL KNOW YOU CAN DO IT WHEN:

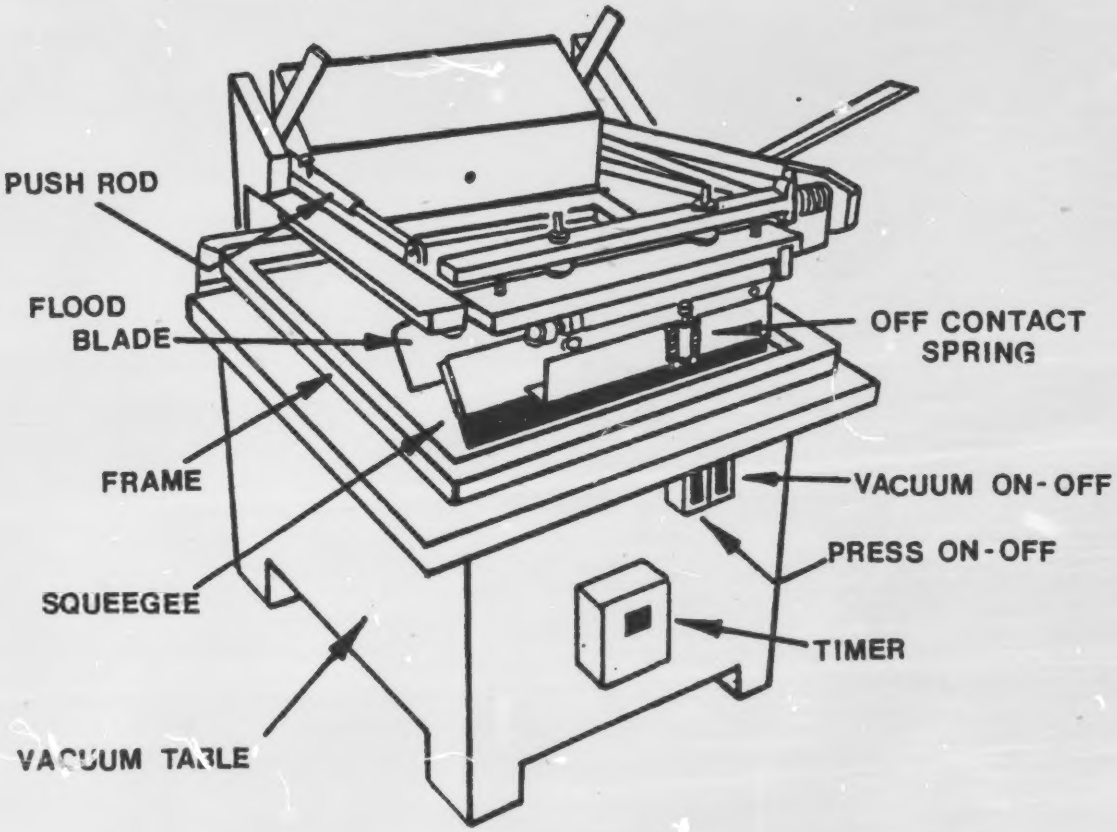
1. YOU SET-UP, ADJUST THE FLOOD BLADE, PRINT STROKE, TIME-DELAY AND VACUUM TABLE POSITIONING FOR THE JOB RUN.
2. YOU PRINT AT LEAST 100 PERFECT COPIES IN POSITION IN SEQUENCE WITHOUT ANY STOPS.
3. YOU LUBRICATE AND CLEAN UP THE SCREEN PRESS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

EXCEPT FOR EXTREMELY LARGE SCREEN PRINT JOBS, ALL SCREEN PRINTING IS DONE ON AUTOMATED SCREEN PRESSES. LOOK THROUGH THE ADVANCE SCREEN PROCESS CATALOG AND RATE SOME OF THE LARGE AUTOMATED SCREEN PRESSED FOR PRINTING ON BOTTLES, TUBES, GLASS, SHIRTS, CLOTH, PLASTIC, ETC.

NOTICE THAT MOST OF THE PRESSES EVEN PUT THE MATERIAL TO BE PRINTED IN POSITION, THEN INTO A LARGE DRYING OVEN. OUR PRESS IS SEMI-AUTOMATIC IN THAT YOU MUST PUT THE STOCK IN THE PRESS AND REMOVE IT. OUR PRESS WILL CLOSE, FLOOD THE SCREEN WITH INK, SQUEEGEE THE INK THROUGH THE SCREEN TO PRINT. THEN YOU OPEN AND WAIT FOR 1 TO 15 SECONDS BEFORE REPEATING THE PRINTING CYCLE. THIS MODEL WILL PRINT FROM 600 TO 1000 SHEETS PER HOUR.

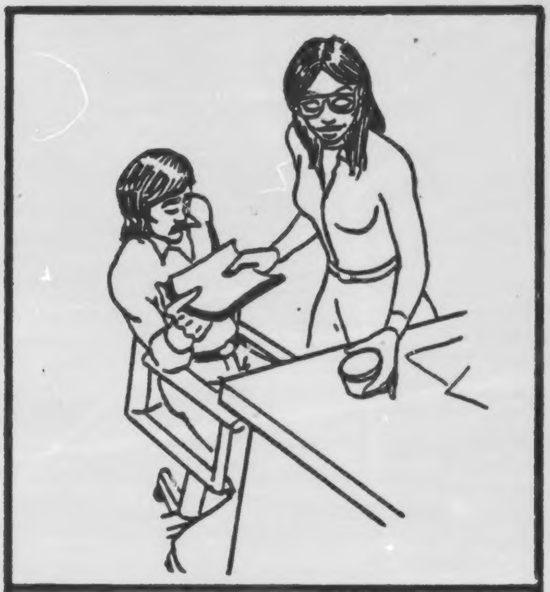

PUSH ROD
FLOOD BLADE
OFF CONTACT SPRING
FRAME
VACUUM ON-OFF
PRESS ON-OFF
SQUEEGEE
TIMER
VACUUM TABLE

JOB STEPS

1. YOU MUST HAVE COMPLETED THE BASIC SCREEN PRESS MODULES (1401 13 302, 1401 13 303, AND 1401 13 304) AND MADE A BLUE-POLY SCREEN PRINTING PLATE (STENCIL). TO SAVE TIME AND ENERGY WORK WITH ANOTHER STUDENT WHILE DOING THIS MODULE. CHECK WITH YOUR INSTRUCTOR FOR A JOB, TIME SCHEDULE AND WHO ELSE YOU CAN WORK WITH SINCE THIS MODULE MAY TAKE 10 HOURS TO COMPLETE.

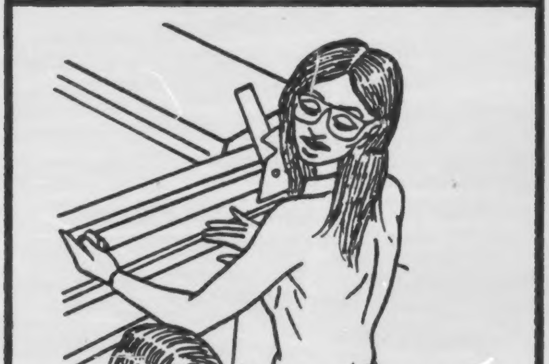
2. BECAUSE OF THE HIGH COST OF MATERIALS; PAPER, INK, STENCIL AND SCREEN, IT WOULD BE BEST TO DO A PRODUCTION-TYPE JOB ON THIS PRESS. YOUR INSTRUCTOR WILL GIVE YOU A JOB, INCLUDING:

- A FILM POSITIVE
- BLUE-POLY FILM
- STOCK (AT LEAST 100 SHEETS)
- INK



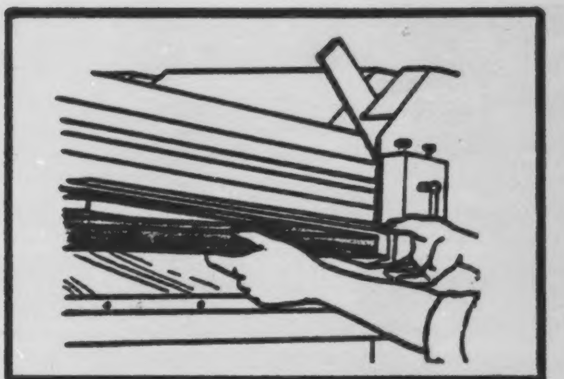
3. YOUR INSTRUCTOR WILL REVIEW THE BASIC OPERATION OF THE AUTOMATIC SCREEN PRESS, INCLUDING:

- SHARPENING AND MOUNTING THE SQUEEGEE
- MOUNTING THE SCREEN FRAME
- ADJUSTING THE SQUEEGEE AND FLOOD BLADE DEPTH
- ADJUSTING THE STROKE AND PUSH ROD LENGTH
- SPEED AND TIMER CONTROL
- REGISTRATON

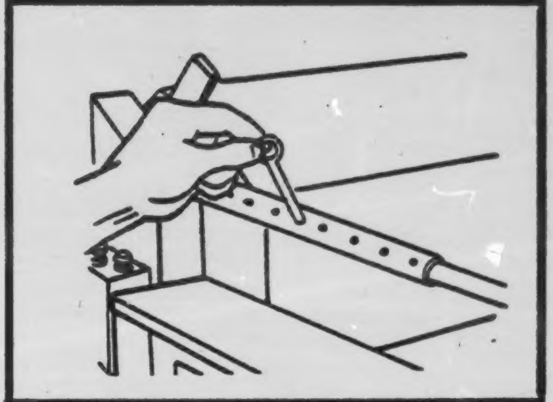


JOB STEPS

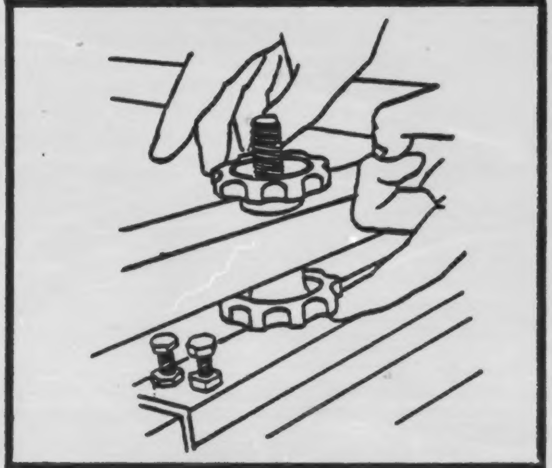
4. PREPARE YOUR SCREEN PLATE (STENCIL) AND MASK OFF THE NON-IMAGE AREA. MOUNT THE SCREEN FRAME INTO THE PRESS, LOCK THE BACK-SIDE FIRST AND MARK POSITION.



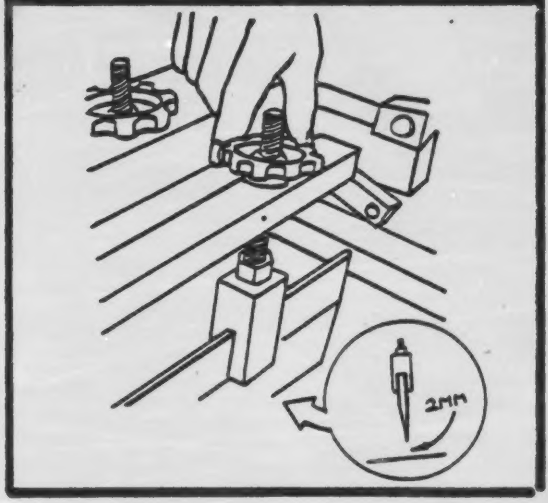
5. ADJUST THE PUSH-ROD AND STROKE SO THE SQUEEGEE AND FLOOD BLADE GO ABOUT 5-10 CENTIMETERS BEYOND THE IMAGE AREA, IN FRONT AND BEHIND. RAISE THE SQUEEGEE AND FLOOD BLADE WHILE DOING THIS.



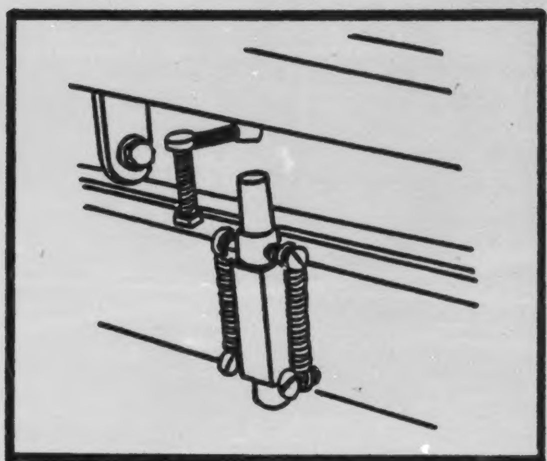
6. SET THE SQUEEGEE PRESSURE WITH THE TWO PAIR OF LARGE HAND-NUTS SO THE POINT OF CONTACT HAS THE RUBBER BLADE AT A 45° ANGLE TO THE SCREEN WHILE PRINTING.



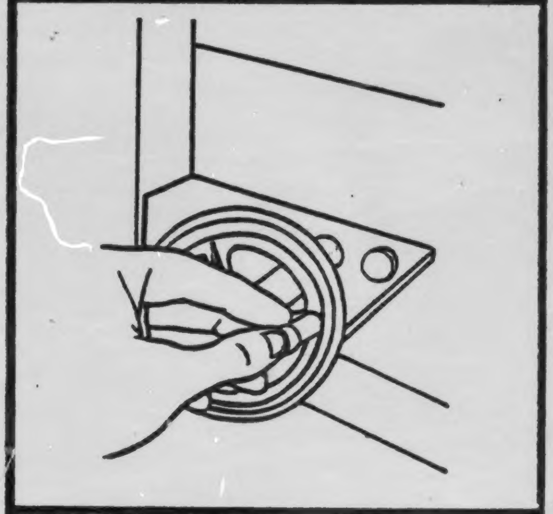
7. SET THE FLOOD BLADE PRESSURE SO IT IS ABOUT 2 MILIMETERS ABOVE THE SCREEN DURING THE RETURN STROKE (NOT THE PRINTING STROKE). USE THE 2 PAIR OF HAND-NUTS FOR ADJUSTING (NORMALLY THIS SHOULD BE CORRECT AS IS).



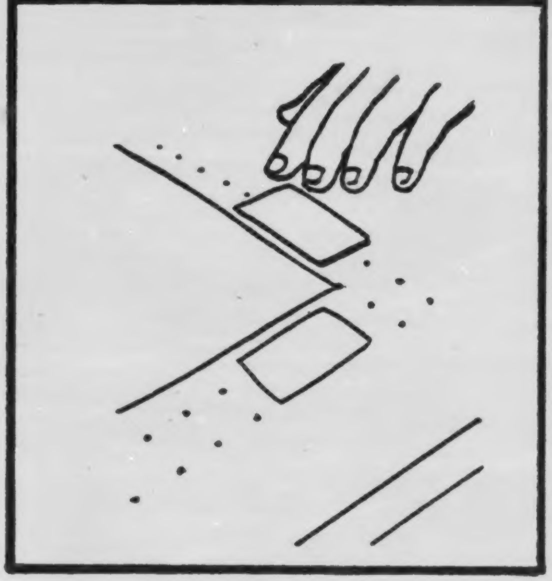
8. CHECK THE SAFETY "BRAKE" OR OFF-CONTACT CONTROL ON THE FRONT OF THE SCREEN CLAMP. THIS SAFETY WILL REDUCE SERIOUS DAMAGE TO YOUR ARM IF YOUR HAND OR ARM IS IN THE PRESS WHEN IT CLOSES. YOUR HANDS IN THE PRESS, HOWEVER, WILL RUIN THE SCREEN.



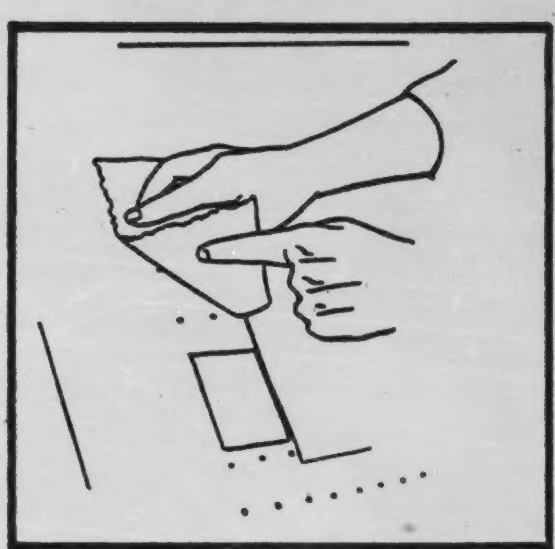
9. SET THE SPEED CONTROL FOR SLOW (600 PER HOUR OR 6 SECOND CYCLES). DON'T USE THE TIMER UNTIL YOU'RE READY TO PRINT.



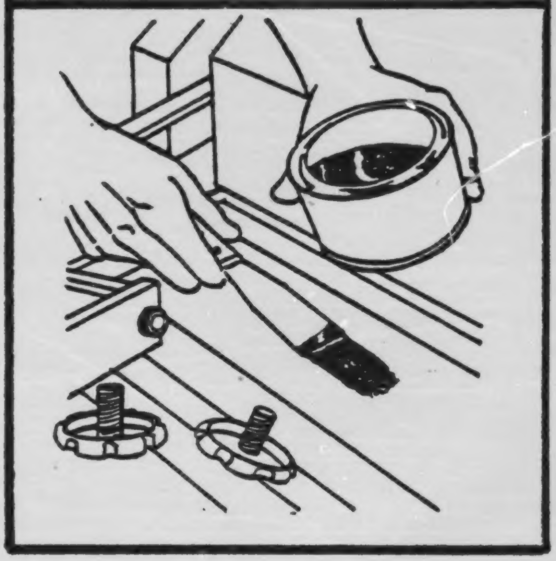
10. LAY THE STACK YOU'RE GOING TO PRINT ON THE VACUUM BOARD IN POSITION. PLACE 3 REGISTER GUIDES OR STOPS ON POSITION (ONE ON LEFT AND TWO ON THE LONG SIDE NEAR YOU, SO YOU CAN PULL THE STACK AND SEE REGISTRATION).



JOB STEPS



11. CLOSE OFF ALL UNUSED VACUUM HOLES WITH HEAVY SCRAP PAPER OR TAPE SO ALL VACUUM WILL BE ON YOUR STACK BEING PRINTED.

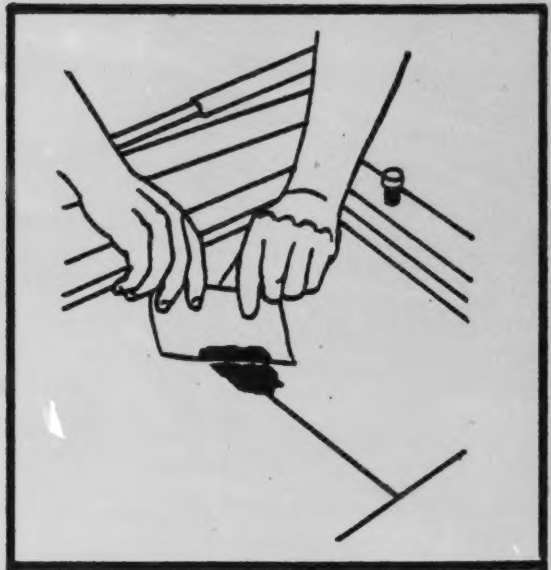


12. PLACE ABOUT 1/2 CUP (1/2 POUND) OF SCREEN INK NEAR THE BACK OF THE IMAGE AREA ON THE SCREEN. RUN SOME PRACTICE PASSES TO GET THE INK SPREAD ON SCRAP PAPER. IF THE LAYER OF INK IS TOO HEAVY ON THE STACK, INCREASE THE SQUEEGEE PRESSURE. BECAUSE THE INK IS SPREAD OUT SO MUCH, YOU MAY HAVE TO ADD THINNER TO THE INK TO REDUCE DRYING.

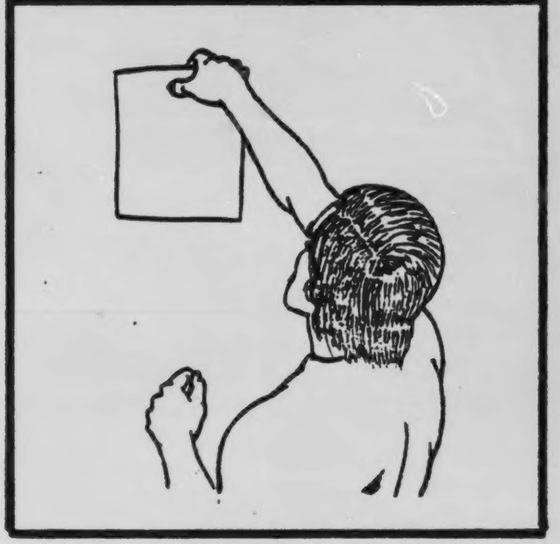
13. CHECK WITH YOUR INSTRUCTOR FOR POSITION AND INKING BEFORE YOU START PRINTING. SET THE TIMER, GO SLOW AT FIRST AND WATCH YOUR INK CAREFULLY. THE INK WILL DRY IF YOU STOP FOR MORE THAN 2 OR 3 MINUTES. PLACE PRINTED SHEETS INTO THE DRYING RACK, IT WOULD HELP TO HAVE 2 EXTRA PEOPLE WHILE YOU ARE DOING THE PRINTING.

JOB STEPS

14. WHEN FINISHED, USE THE INK KNIFE TO CAREFULLY REMOVE EXCESS INK FROM THE FLOOD BLADE & SQUEEGEE. REMOVE THE SCREEN. IF THE INK LOOKS DIRTY, DUSTY OR DRY, DISCARD IT. DON'T USE CONTAMINATED INK. WITH A PIECE OF HEAVY PAPER, NOT THE INK KNIFE, SCRAPE OFF EXCESS INK FROM THE SCREEN. WRAP ALL OLD INK IN PAPER AND PUT IT IN A PLASTIC-LINED WASTE BASKET.



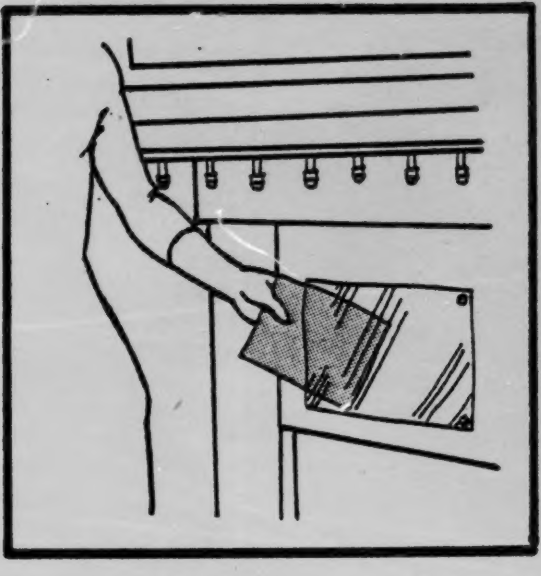
15. USING TWO RAGS AND LOTS OF CLEANER, CLEAN BOTH SIDES OF THE SCREEN AT THE SAME TIME IN THE SAME PLACE. WHEN CLEAN, REMOVE THE PAPER MASK, WASH OUT THE BLUE-POLY PLATE AND CHECK FOR CLEANNESS (LOOK THROUGH TOWARD LIGHT).



16. CLEAN THE SQUEEGEE, FLOOD BLADE, TABLE, COUNTER, ETC. CLEAN THE INK CAN AND INK KNIFE

17. REMOVE GUIDES AND PAPER FROM VACUUM BOARD.

JOB STEPS



18. HAVE YOUR INSTRUCTOR CHECK YOUR JOB, THE PRESS, THE INK CAN AND YOUR CLEAN SCREEN.

19. LUBRICATE THE SCREEN PRESS. PUT A DROP OF OIL ON ALL WEAR OR MOVING PARTS. USE A GREASE GUN WITH FITTINGS AND GIVE A SMALL LUBRICATION TO THE 5 GREASE POINTS (SEE BLUEPRINT #G-3002A IN SIDE POCKET OF MACHINE).

graphics

unit: FINISHING & BINDERY

capital area career center

module: 1401 14 001
1401 14 001 3 **date:** 11/77 **level:**

skill title: IDENTIFYING FINISHING & BINDERY PROCESSES

developed & written by: JIM WOODWARD & GLEN PETTIT

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

THE MANY TYPES OF BINDING AND FINISHING TERMS.

IN ORDER TO DO THIS YOU WILL NEED:

GRAPHIC COMMUNICATIONS, BY RICHARD J. BROEKHUIZEN, PP. 317-358

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN ANSWER THE QUESTIONS IN THE BACK OF THIS MOD.
2. YOU CAN ANSWER ORAL QUESTIONS GIVEN TO YOU BY YOUR INSTRUCTOR. YOUR INSTRUCTOR MAY HAVE YOU WRITE OUT THE ANSWERS AND HAND THEM IN.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

MOST PRINTING JOBS HAVE SOME TYPES OF BINDING AND/OR FINISHING. AS A NEW EMPLOYEE, YOU MAY EVEN START OUT YOUR JOB WORKING IN BINDING AND/OR FINISHING. YOU MAY ALSO BE CALLED ON SOMETIME TO SHOW OTHERS HOW TO DO THESE JOBS.

TECHNICAL WORDS:

BINDING: PUTTING MANY PIECES TOGETHER TO MAKE ONE UNIT (LIKE A BOOK)

SCORING: TO MAKE A CREASE IN PAPER WITHOUT CUTTING IT. THIS MAKES FOLDING HEAVY PAPER EASIER.

PERFORATING: MAKING SMALL CUTS IN A ROW SO THAT PAPER TEARS EASIER (LIKE A ROLL OF TICKETS)

SLITTING: CUTTING PAPER ON THE PRESS OR FOLDER ON A WHEEL MUCH LIKE THE WHEELER CUTTER FOR CUTTING PIZZA

DIE CUTTING: CUTTING DESIGN OUT OF A LETTER PRESS MUCH LIKE YOU CUT COOKIES WITH A COOKIE CUTTER

NUMBERING: PUTTING NUMBERS IN ORDER ON TICKETS, INVOICES, ETC. BY MACHINE OR HAND

EMBOSSING: MAKING A RAISED DESIGN ON PAPER

LAMINATING: PUTTING A PIECE OF PAPER BETWEEN TWO THIN PIECES OF PLASTIC

FOLD: MAKING A PIECE OF PAPER SMALLER

KNIFE FOLDER: A MACHINE THAT USES A SMALL BLADE AND ROLLER TO MAKE A FOLD

BUCKLE FOLDER: A MACHINE THAT USES PLATES AND ROLLERS TO MAKE THE FOLD. THIS IS THE MOST COMMON TYPE FOLDER

INSERTING: PUTTING ONE PIECE OF PAPER INSIDE ANOTHER, AS IN PUTTING A LETTER IN AN ENVELOPE

COLLATING: PUTTING SINGLE SHEETS OF PAPER IN ORDER, LIKE COUNTING OUT PAPER MONEY

DRILLING: MAKING ROUND HOLES IN STACKS OF PAPER SO THEY CAN BE PUT IN A NOTEBOOK

SADDLE SEWING: PUTTING FOLDED SHEETS TOGETHER BY SEWING ALL SHEETS IN THE FOLD

INFORMATION

SIDE SEWING: PUTTING A PILE OF SINGLE SHEETS TOGETHER BY SEWING THE EDGES TOGETHER

SIGNATURE: A SHEET OF PRINTED PAPER FOLDED TO MAKE PART OF A BOOK

SADDLE STITCHING: PUTTING FOLDED SHEETS TOGETHER WITH WIRE STAPLES IN THE FOLD

SIDE STITCHING: PUTTING A PILE OF SINGLE SHEETS TOGETHER WITH WIRE STAPLES IN THE SIDE

ADHESIVE BINDING: GLUING THE SIDE FORMED BY THE EDGES IN A PILE OF SINGLE SHEETS OF PAPER

MECHANICAL BINDING: PUTTING PAPER TOGETHER WITH PLASTIC AND WIRE SPIRALS

LOOSE LEAF BINDING: A HOLDER FROM WHICH PAPER CAN BE ADDED AND REMOVED (LIKE YOUR NOTEBOOK)

SMYTHE SEWING: SEWING A PILE OF SIGNATURE TOGETHER ALL AT ONCE

FINISH: PUTTING ON THE COVER OF A BOOK

ENDSHEETS: THE FIRST AND LAST (HEAVY PAGES) IN A BOOK

ROUNDING: ROUNDING THE BACK OF A BOOK

BACKING: PUTTING A GROOVE ALONG THE BACK WITH A BACK HAMMER AND BACKING BOARD

SUPER: A PIECE OF CLOTH GLUED TO THE BACK OF A BOOK

HEADBAND: PIECE OF PRETTY CLOTH GLUED TO THE BACK OF A BOOK AT THE TOP AND BOTTOM

BOOK CASING: THE COMPLETED BOOK COVER

BINDERS BOARD: HEAVY CARD BOOK

BOOK CLOTH: PRETTY CLOTH THAT IS USED TO COVER THE BINDER'S BOARD

HOT STAMPING: PUTTING THE NAME ON THE BOOK COVER IN GOLD OR SOME OTHER COLOR

HANGING: PUTTING THE BOOK AND CASING TOGETHER

GUMMED HOLLAND: CLOTH TAPE USED TO COVER SEWN OR STAPLED BOOKS

ROUND CORNERING: MAKING CORNERS ROUND LIKE YOU FIND ON I.D. AND MEMBERSHIP CARDS

ON A SEPARATE SHEET OF PAPER, ANSWER THESE QUESTIONS BY PUTTING DOWN THE RIGHT LETTER.

1. WHEN YOU FORM ONE UNIT BY PUTTING MANY PIECES TOGETHER, THIS IS CALLED________________.

   A. BACKING
   B. BINDING
   C. HOT STAMPING
   D. ROUND CORNERING

2. WHEN YOU PUT ON THE BOOK COVER, THIS IS THE ______________.

   A. FOLD
   B. SIGNATURE
   C. DRILL
   D. FINISH

3. WHEN YOU PUT A PILE OF SINGLE SHEETS TOGETHER WITH WIRE STAPLES IN THE SIDE, THIS IS CALLED_________________.

   A. SIDE-STITCHING
   B. NUMBERING
   C. SLITTING
   D. INSERTING

4. TO MAKE A PIECE OF PAPER SMALLER, YOU SHOULD ______________.

   A. SCORE
   B. FOLD
   C. CUT
   D. DRILL

5. WHEN YOU USE A WHEEL TO CUT PAPER ON THE PRESS OR FOLDER, THIS IS CALLED __________________.

   A. EMBOSSING
   B. SMYTHE SEWING
   C. SLITTING
   D. NUMBERING

6. PUTTING ONE SHEET OF PAPER INSIDE ANOTHER IS CALLED___________.

   A. COLLATING
   B. LAMINATING
   C. INSERTING
   D. SCORING

7. WHEN YOU SEW TOGETHER A PILE OF SIGNATURE ALL AT ONCE, THIS IS CALLED___________________.

   A. SMYTHE SEWING
   B. ENDSHEETS
   C. BACKING
   D. HANGING

8. WHAT IS A BINDER'S BOARD?

   A. THE COMPLETED BOOK COVER
   B. A HEAVY CARD BOOK
   C. A PLASTIC AND WIRE SPIRAL
   D. A SHEET OF PAPER

9. THE FIRST AND LAST SHEETS IN A BOOK, MADE FROM HEAVY PAPER, ARE CALLED ________________.

   A. ROUNDING
   B. HEADBANDS
   C. BOOK CLOTH
   D. ENDSHEETS

10. BACKING IS ______________.

   A. PUTTING FOLDED SHEETS TOGETHER WITH STAPLES
   B. PUTTING A GROOVE ALONG THE BACK WITH A BACK HAMMER AND BACKING BOARD
   C. NAILING PAPER TO THE BACKING BOARD
   D. GLUING PAPER TO THE FOLD

11. MAKING CORNERS ROUND LIKE THOSE YOU FIND ON I.D. OR MEMBERSHIP CARDS IS CALLED __________________.

   A. CASING
   B. GUMMED HOLLAND
   C. ROUND CORNERING
   D. HOT STAMPING

12. PUTTING THE BOOK AND CASING TOGETHER IS CALLED ____________.

   A. GUMMED HOLLAND
   B. HANGING
   C. PERFORATING
   D. DIE CUTTING

13. MAKING A RAISED DESIGN ON PAPER IS CALLED _______________.

   A. EMBOSSING
   B. LAMINATING
   C. ROUNDING
   D. HEADBANDING

14. ADHESIVE BINDING IS ________________.

   A. SADDLE STITCHES
   B. GLUING COVERS
   C. GLUING THE SIDE OF A PILE OF SINGLE SHEETS OF PAPER
   D. MAKING ROUND HOLES IN STACKS OF PAPER

15. WHAT IS A SIGNATURE?

A. A SHEET OF PRINTED PAPER FOLDED TO MAKE PART OF A BOOK
B. THE EDITOR'S NAME ON THE FOLD
C. THE ENDSHEETS
D. THE BINDING

16. WHEN YOU CUT A DESIGN OUT OF A LETTER PRESS, YOU ARE ________.

A. LAMINATING
B. COLLATING
C. SCORING
D. DIE CUTTING

17. WHEN YOU PUT THE NAME ON THE BOOK COVER IN GOLD (OR ANOTHER COLOR) YOU ARE __________________.

A. HOT STAMPING
B. COLD STAMPING
C. SIDE SEWING
D. SMYTHE SEWING

18. WHAT IS A HEADBAND?

A. THE COMPLETED BOOK COVER
B. A PIECE OF PRETTY CLOTH GLUED TO THE BACK OF A BOOK AT THE TOP AND BOTTOM
C. CLOTH TAPE
D. LOOSELEAF BINDING

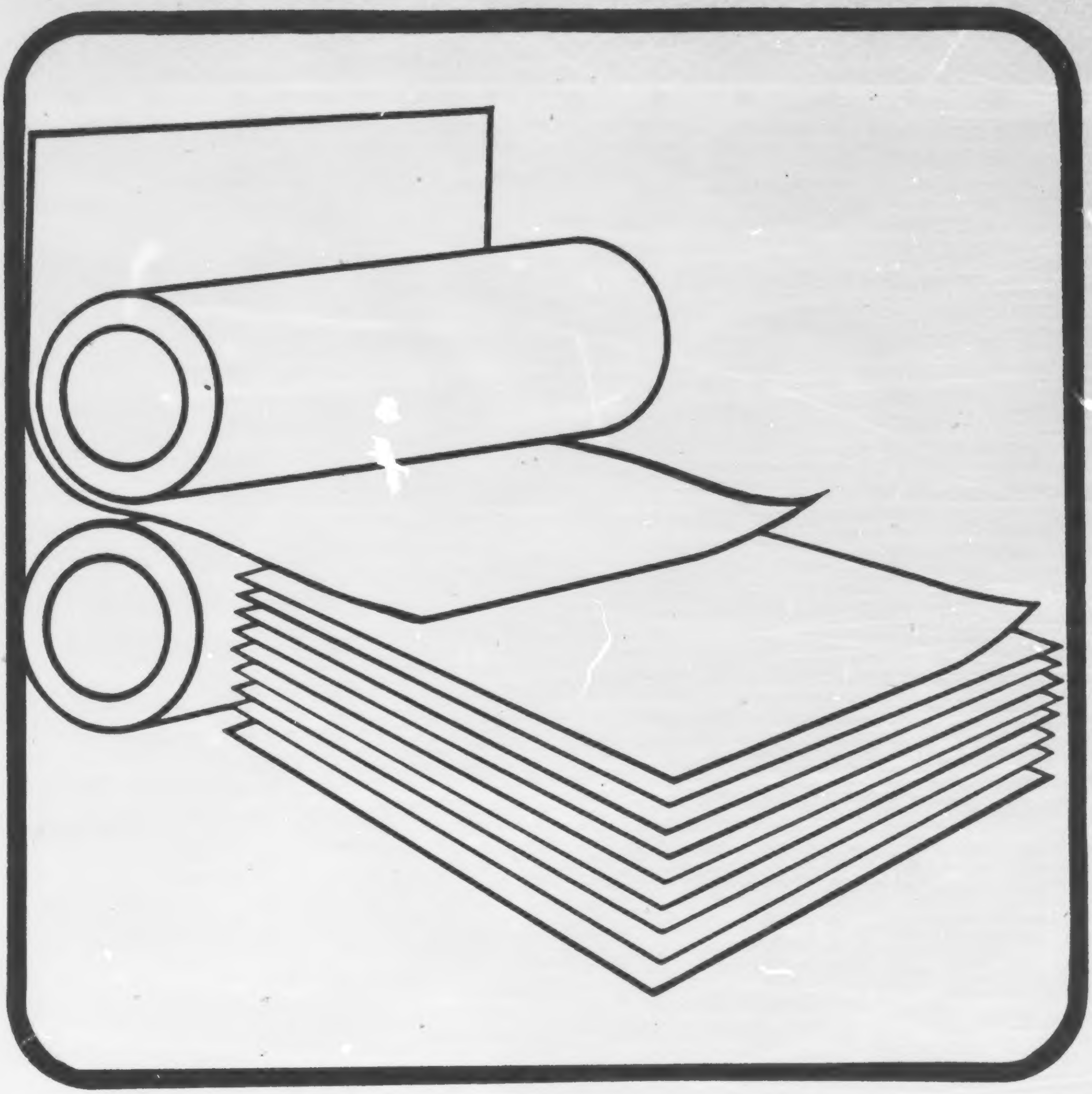
19. WHAT IS MECHANICAL BINDING?

A. SIDE STITCHING
B. PUTTING PAPER TOGETHER WITH PLASTIC AND WIRE SPIRALS
C. ROUNDING THE BACK OF A BOOK
D. MACHINE STAPLING

20. CLOTH TAPE USED TO COVER SEWN OR STAPLED BOOKS IS CALLED ____________________.

A. BOOK CLOTH
B. BOOK CASING
C. GUMMED HOLLAND
D. GUMMED RUMANIA

ANSWERS: 1.B 2.D 3.A 4.B 5.C 6.C 7.A 8.B 9.D 10. B
11. C 12. B 13.A 14.C 15.A 16.D 17.A 18.B
19. B 20.C



graphics

unit: FINISHING AND BINDERY

capital area career center

1401 14 002
module: 1401 14 002 3 **date:** MARCH 1977 **level:** I

skill title: PAPER AND PRINTED MATERIAL HANDLING, JOGGING AND STACKING

developed & written by: GLEN PETTIT

visuals by: MISCELLANEOUS

WORD GUIDE

JOG - BEND AND SHAKE A LIFT OF PAPER TO GET IT STRAIGHT AND NEAT

PAD COUNTER - HAND-HELD TOOL USED TO COUNT PILES OF PAPER

STACKING - ARRANGING LIFTS (SHEETS) IN A STRAIGHT, UNIFORM, NEAT PILE OR STACK)

LIFT - PILE OF SHEETS THAT IS EASY TO HANDLE AND CARRY. A LIFT HAS A KNOWN AMOUNT OF SHEETS TO IT

STAGGER - MOVE BACK AND FORTH SO EDGES ARE EASIER TO GRAB

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO OPEN, IDENTIFY, HANDLE AND CARRY PAPER.
HOW TO "JOG" PAPER AND STACK IT IN PILES.

IN ORDER TO DO THIS YOU WILL NEED:

A 1/2 METER (5,000 SHEETS) OF PAPER
AN AUTOMATIC JOGGER (AND AT LEAST AN HOUR OF PRACTICAL PRODUCTION EXPERIENCES IN THE LAB)
PACKAGE LABELS
PAD COUNTER
SCRAP PAPER 8 1/2 X 11" 20# WHITE BOND
WORK TABLE

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN HANDLE AND CARRY SMALL (3 1/4" X 5 1/2") AND LARGE (23 X 35") SHEETS OF PAPER
2. YOU CAN JOG BY HAND OR WITH AN AUTOMATIC JOGGER.
3. YOU CAN STACK PAPER IN STAGGERED LIFTS OVER 1/2 METER HIGH SO THEY ARE STRAIGHT, UNIFORM, NEAT AND MEET TRADE STANDARDS.
4. YOU CAN IDENTIFY, CARRY AND OPEN SMALL PACKAGES OR LARGE CARTONS OF PAPER.
5. YOU CAN CHECK: SIZE, COLOR, COUNT, WEIGHT, SUBSTANCE KIND AND SIZE, ALL WITH 100% ACCURACY.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

ESSENTIAL - VERY IMPORTANT

INFORMATION

HANDLING, JOGGING AND STACKING PAPER IS CONSIDERED ESSENTIAL BY THE INDUSTRY. THE MAJOR COMPLAINT EMPLOYERS HAVE ABOUT BEGINNING EMPLOYEES (ENTRY LEVEL CAREER CENTER STUDENTS LIKE YOU) IS THAT THEY CANNOT HANDLE, JOG, OR STACK PAPER PROPERLY, ACCORDING TO TRADE STANDARDS. SO, IT IS VERY IMPORTANT THAT YOU LEARN THIS SKILL TO BE SUCCESSFUL IN YOUR JOB.

WORD GUIDE

DISORDERED - LOOSE, OUT OF ORDER, NOT NEAT

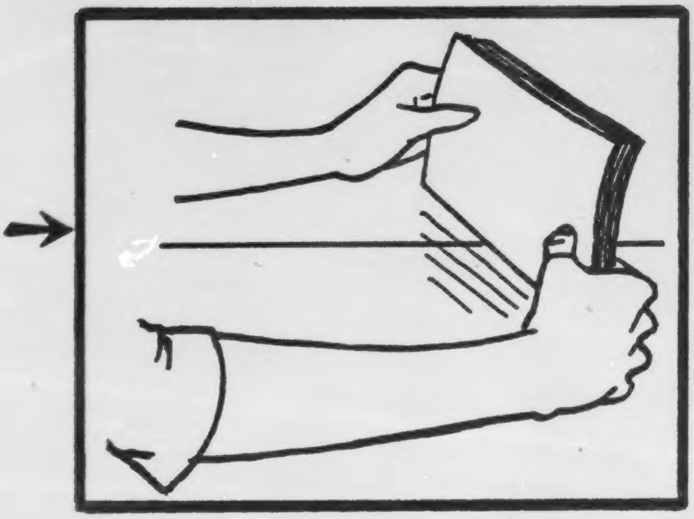
JOB STEPS

1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

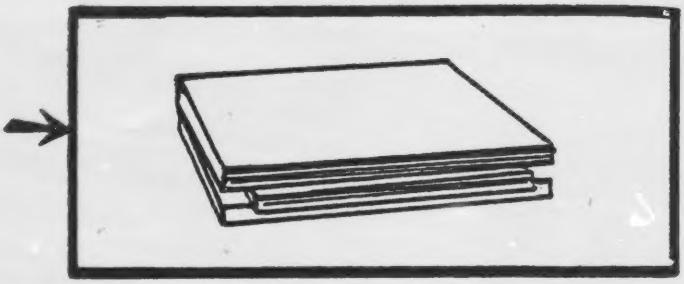
2. FIND THE SCRAP (8 1/2 X 11" 20# WHITE BOND) PAPER BOX IN THE LAB AREA. YOU'LL NEED AN ENTIRE CARTON (5,000 OR 1/2 METER) OF PAPER. YOU WILL ALSO NEED AN ENTIRE TABLE TO WORK ON (1/2 X 1 1/2 METER).

3. MEASURE A LIFT OF PAPER, 5 CM. THICK AND WORK WITH THIS AMOUNT.
    - A. JOG THE LIFT BY HAND AS SHOWN IN THE SLIDE/ TAPE
    - B. START WITH A MESSY LIFT.

    NOTE: THE AVERAGE LIFT SHOULD TAKE 30 SECONDS TO JOG AND STACK. IF YOU ARE HAVING ANY TROUBLE, ASK ANY EXPERIENCED STUDENT TO HELP. DO NOT USE THE AUTOMATIC JOGGER AT THIS TIME.



4. WHEN YOU UNDERSTAND WHAT TO DO, JOG THE ENTIRE CARTON OF PAPER IN LIFTS OF 5 CM. AND STACK ALL LIFTS IN ONE PILE, STAGGERED. YOU SHOULD HAVE AT LEAST TEN LIFTS IN YOUR STACK.

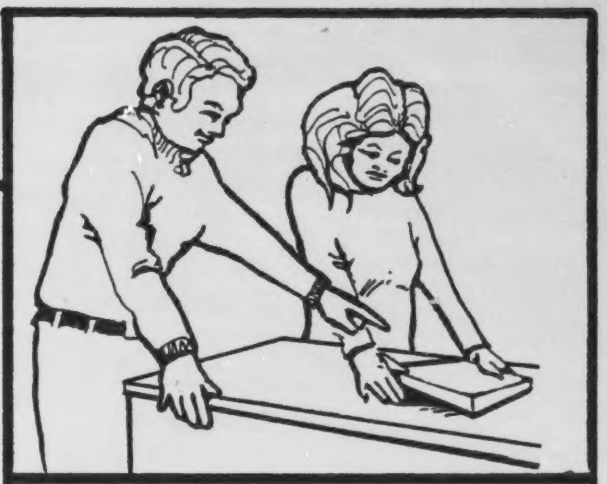


5. WHEN YOU ARE SATISFIED WITH YOUR WORK, HAVE THE INSTRUCTOR CHECK YOUR STACKING.

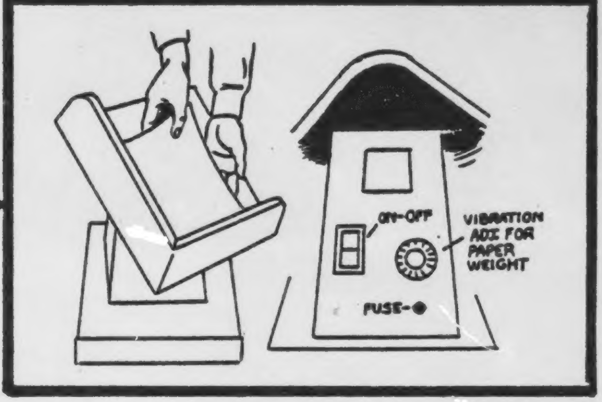
6. ASK THE INSTRUCTOR/MANAGER FOR SOME LARGE 23 X 35" SHEETS TO JOG. HE/SHE WILL HELP AND WATCH YOU HANDLE, JOG, AND STACK THESE LARGE SHEETS.

JOB STEPS

7. ASK THE INSTRUCTOR/MANAGER FOR SOME PACKAGE LABELS. HE/SHE WILL ASK YOU TO IDENTIFY SOME INFORMATION ON THE LABELS: SIZE, COLOR, COUNT, WEIGHT, SUBSTANCE, KIND, AND SIZE.



8. USE THE SAME SCRAP PAPER FROM STEP 3 AND JOG IT IN LIFTS 3 CM. THICK ON THE AUTOMATIC JOGGER (USE THE PAD COUNTER TO COUNT). STACK THESE LIFTS IN ONE PILE, STAGGERED.


ON-OFF
VIBRATION ADJ FOR PAPER WEIGHT
FUSE-●

9. HAVE THE INSTRUCTOR/MANAGER MAKE A FINAL CHECK ON YOUR WORK.

10. WHEN ACCEPTED, NEATLY RETURN ALL YOUR SCRAP PAPER TO THE SCRAP PAPER BOX (BLANK SIDE UP) AND CLEAN YOUR WORK AREA. REQUEST CREDIT FOR THIS MOD.

NOTE: DURING YOUR TRAINING HERE, YOU WILL HAVE THE OPPORTUNITY TO WORK ON PRODUCTION. IN ADDITION TO THE BASIC PRACTICE YOU HAVE JUST DONE, YOU SHOULD DO AT LEAST ONE HOUR OF PRODUCTION HANDLING, JOGGING, STACKING, AND WORKING WITH PAPER. YOU MAY SPEND FIVE MINUTES EACH ON A DOZEN JOBS, BUT IT IS IMPORTANT YOU LEARN AND REMEMBER THIS SKILL BECAUSE IT IS A VERY BASIC ENTRY-LEVEL SKILL.

graphics

unit: FINISHING AND BINDERY

capital area career center

1401 14 003
module: 1401 14 003 3 **date:** DECEMBER 1977 **level:** III

skill title: COUNTING PAPER

developed & written by: GLEN PETTIT

visuals by: STEVE BRAMER

WORD GUIDE

TABS - SMALL STRIPS OF PAPER USED FOR TEMPORARY MARKERS.

PAD COUNTER - TOOL USED TO MEASURE THE SAME THICKNESS REPEATEDLY.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO COUNT PAPER BY 5'S, BY MEASURING, BY COMPARING AND WITH A PAD COUNTER.

IN ORDER TO DO THIS YOU WILL NEED:

PAPER
METER STICK
PAD COUNTER AND DIVIDER

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN COUNT PAPER BY 5'S AVERAGING FIVE MINUTES PER THOUSAND SHEETS WITH 100% ACCURACY.
2. YOU CAN COUNT PAPER BY MEASURING, BY COMPARING AND WITH A PAD COUNTER WITH 99% ACCURACY.
3. YOU CAN INSERT TABS AND STACK PAPER IN A NEAT, STRAIGHT STACK TO TRADE STANDARDS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

IN THE LAST MODULE (1401 14 002) YOU LEARNED HOW TO HANDLE, JOG AND STACK PAPER AND HOW IMPORTANT IT WAS. NOW YOU WILL LEARN TO COUNT PAPER QUICKLY AND ACCURATELY.

A FAST AND GOOD PRESSPERSON CAN KEEP A VERY ACCURATE COUNT WHILE PRINTING AND MARK THE PAPER IN 100'S OR 500'S. ON SHORT RUNS (LESS THAN 200) OR WHEN HAVING PRESS PROBLEMS, THE PRESSPERSON CAN'T MARK OR DIVIDE THE PAPER ACCURATELY. EVEN UNDER POOR CONDITIONS, HOWEVER, WHEN A JOB IS PRINTED THE PRESSPERSON WILL ALWAYS WRITE DOWN THE CORRECT NUMBER OF GOOD PIECES ON THE JOB ENVELOPE.

VERY FEW SHOPS HAVE AUTOMATIC PAPER COUNTERS BECAUSE THEY ARE EXPENSIVE. YOU MUST LEARN TO COUNT PAPER BY HAND AND VERY QUICKLY. THE TRADE STANDARD FOR COUNTING 8½" X 11" BOND PAPER IS 250 SHEETS PER MINUTE, MANY PEOPLE CAN COUNT 500 SHEETS PER MINUTE. TO COUNT THIS FAST A PRINTER COUNTS BY 5'S, FOR EXAMPLE: 5, 10, 15, 20, 25, 30, ETC. YOU MUST LOOK TO SEE IF YOU HAVE 5 SHEETS, DON'T COUNT: 1, 2, 3, 4, 5, ETC. BECAUSE IT IS MUCH TOO SLOW.

ONCE YOU HAVE A 100 OR 500 SHEETS COUNTED, YOU CAN USE A RULER, A PAD COUNTER OR JUST COMPARE TWO PILES TO COUNT. THESE METHODS ARE USUALLY ACCURATE WITHIN 1 OR 2 SHEETS.

FOR THIS MOD YOU MUST BE ABLE TO COUNT 200 SHEETS PER MINUTE WITH 100% ACCURACY (5 MINUTES PER THOUSAND SHEETS) AND PLACE THESE IN A NEAT, STRAIGHT, UNIFORM PILE.

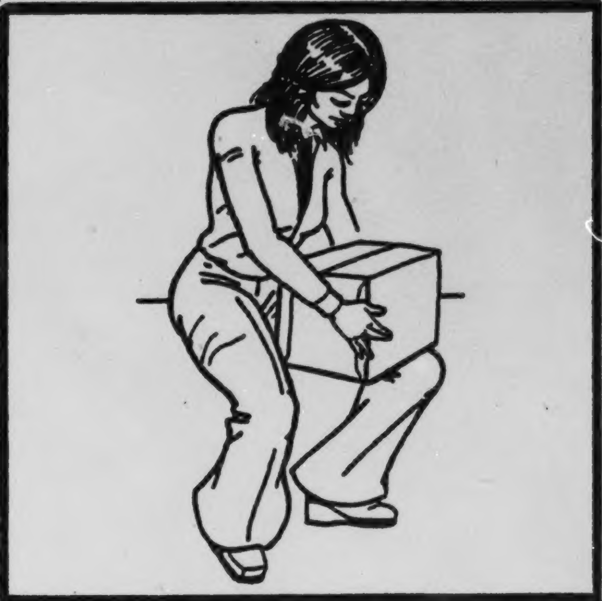
WORD GUIDE

LIFT - A SMALL PILE OF SHEETS THAT IS EASY TO HANDLE AND CARRY.

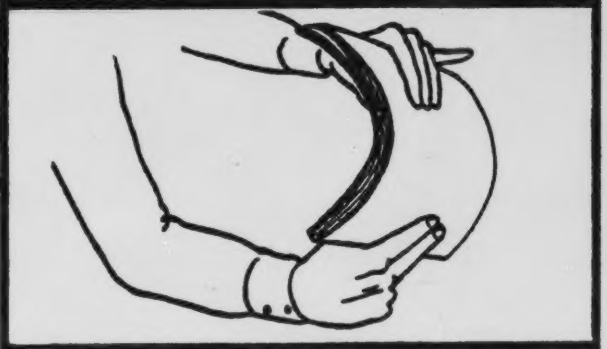
JOB STEPS

1. GET THE ENTIRE BOX OF 8½" X 11" 20# BOND SCRAP PAPER, YOU NEED 5,000 SHEETS OF A 1/2 METER HIGH PILE. PLACE THESE ON AN EMPTY TABLE.

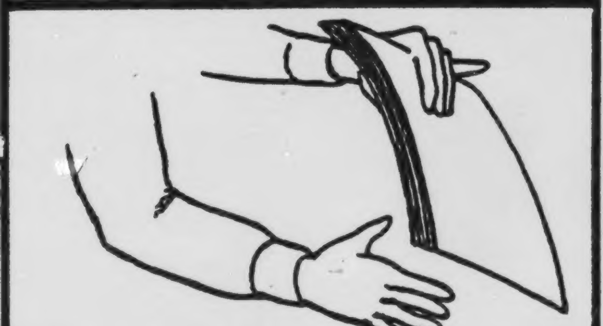
> **CAUTION:** A FULL CARTON, 5,000 SHEETS OF THIS PAPER WEIGHS 50# (23 KILO) AND IS HEAVY. PICK UP THE CARTON CAREFULLY, BENDING AT THE KNEES.



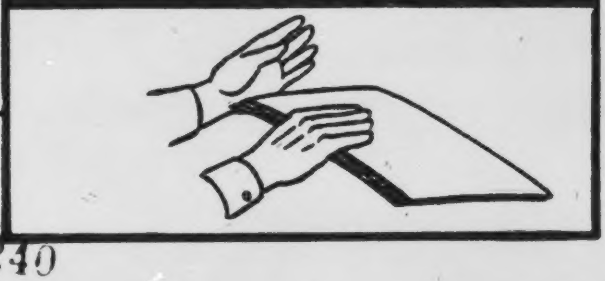
2. TAKE A LIFT ABOUT 2 CM THICK AND FAN OUT ONE EDGE: DO THIS BY HOLDING THE LIFT TIGHT WITH YOUR RIGHT HAND AND BENDING THE LIFT (LIKE A HORSESHOE) WITH YOUR LEFT HAND LOOSELY.



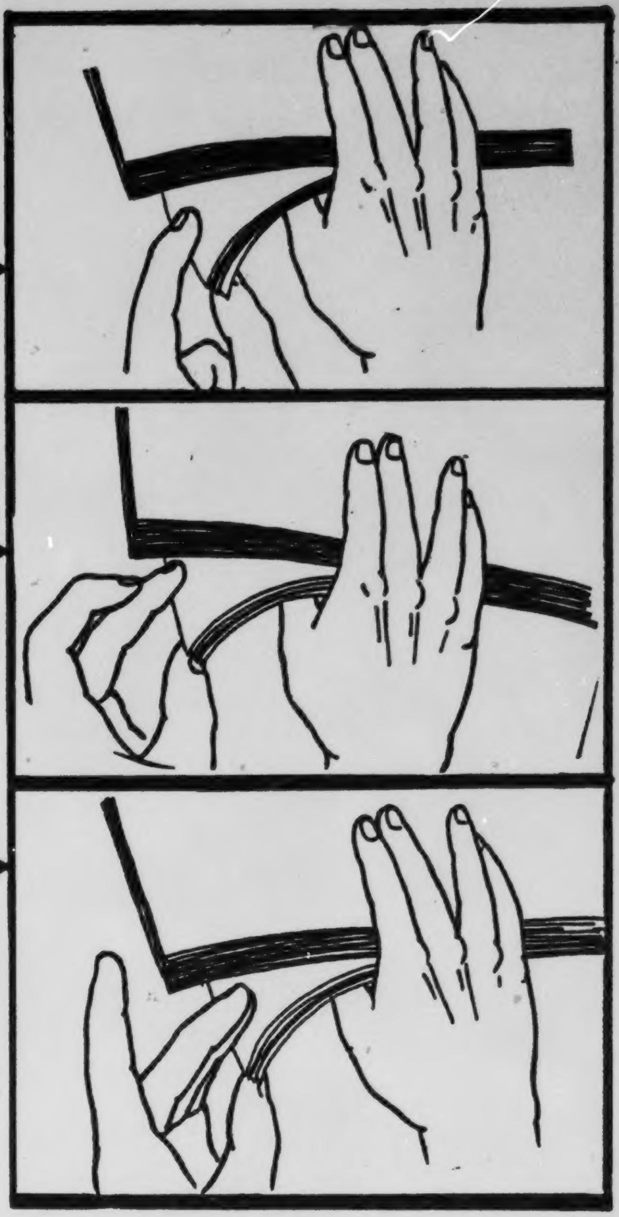
3. SQUEEZE THE FANNED EDGE TIGHT WITH YOUR LEFT HAND, THEN RELEASE YOUR GRIP WITH THE RIGHT HAND.



4. MOVE YOUR RIGHT HAND NEAR THE FANNED LEFT EDGE AND HOLD THE LEFT TIGHTLY ON ITS SIDE AS SHOWN. IT MAY TAKE A DOZEN OR MORE TRIES TO GET THIS, IF YOU ARE HAVING PROBLEMS, SEE YOUR INSTRUCTOR FOR HELP.



JOB STEPS



5. WITH YOUR LEFT FOREFINGER, PULL BACK EXACTLY FIVE SHEETS, ALL AT ONCE.

6. DON'T COUNT 1, 2, 3, 4, 5, BUT JUST BY 5. NOW PULL THIS FIRST FIVE BACK MORE AND HOLD THEM BACK WITH YOUR INDEX (SECOND) FINGER.

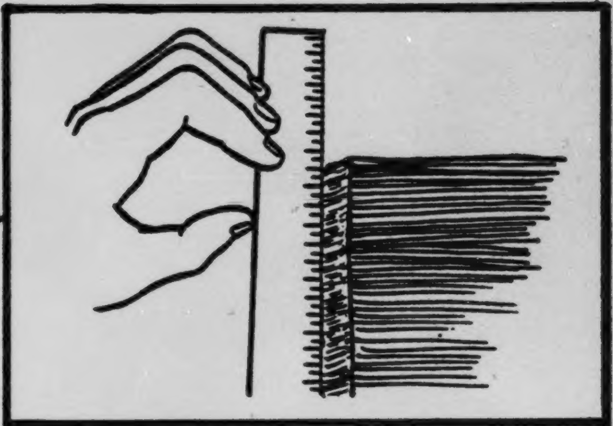
7. HOLDING THE FIRST FIVE SHEETS DOWN WITH YOUR INDEX FINGER, MOVE YOUR FOREFINGER TO THE LIFT AGAIN AND PULL BACK ANOTHER FIVE SHEETS. AGAIN, DON'T COUNT, JUST SEE IF YOU HAVE FIVE MORE SHEETS FOR A TOTAL OF 10.

8. THIS IS NOT EASY BUT MUST BE LEARNED. PRACTICE, MAYBE EVEN 100 TIMES. YOU SHOULD FIND NEARLY 200 SHEETS IN THIS LIFT (2 CM THICK) AND IT SHOULD TAKE ONLY ABOUT ONE MINUTE TO COUNT ALL 200 SHEETS.

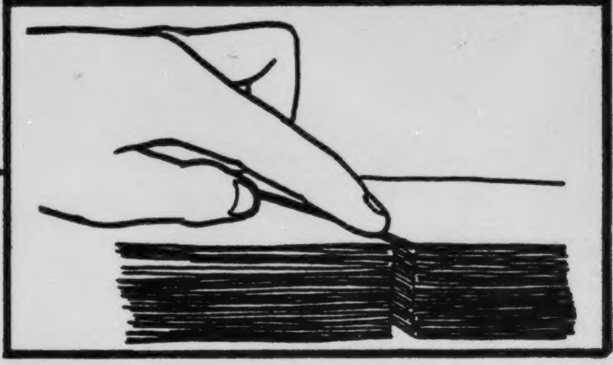
9. YOUR INSTRUCTOR WILL GIVE YOU SOME PAPER TO COUNT (THAT HAS ALREADY BEEN COUNTED). YOU WILL BE TIMED, AND CHECKED FOR ACCURACY. PRACTICE UNTIL YOU CAN COUNT 200 SHEETS PER MINUTE.

JOB STEPS

10. TO COUNT PAPER BY MEASURING: FIRST COUNT ENOUGH PAPER TO EQUAL A GIVEN MEASURE, LIKE 1 CM. THEN MEASURE THE ENTIRE PILE IN CENTIMETERS. IF YOU COUNTED 80 SHEETS PER CENTIMETER AND THE PILE WAS 10 CM HIGH, THEN MULTIPLY 10 X 80. THUS, THERE ARE 800 SHEETS IN THAT PILE. USE THIS MEASURING METHOD TO ESTIMATE HOW MANY SHEETS ARE IN YOUR PILE.



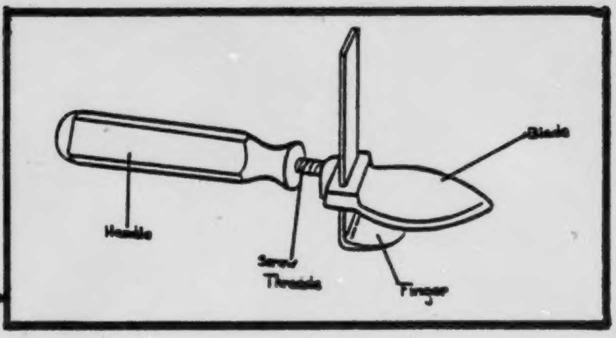
11. A THIRD METHOD USED TO COUNT PAPER IS BY COMPARING. IF YOU HAVE A PILE OF PAPER THAT YOU KNOW HAS A CERTAIN NUMBER OF SHEETS IN IT, YOU CAN "FEEL" TO SEE WHEN A SECOND PILE IS EXACTLY THE SAME HEIGHT. PLACE BOTH PILES NEXT TO EACH OTHER AND CAREFULLY FEEL THEM.



12. WITH JUST A LITTLE PRACTICE, YOU CAN FEEL ONE OR TWO SHEETS DIFFERENCE BETWEEN THE TWO PILES. KEEP REMOVING OR ADDING SHEETS TO THE SECOND PILE TO GET A PERFECT FEEL OR COMPARISON. IT MAY HELP TO SWITCH HANDS OR TO CLOSE YOUR EYES WHILE DOING THIS. PRACTICE THIS METHOD.

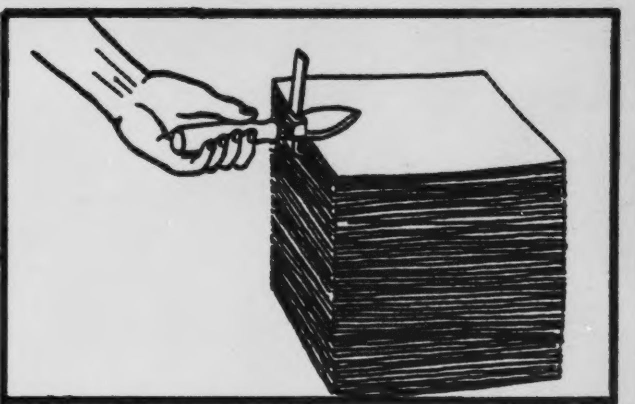
13. THE FOURTH METHOD USED FOR COUNTING PAPER IS WITH A PAD COUNTER LIKE YOU USE FOR DIVIDING AND COUNTING PAPER TO BE PADDED.

14. THE WOOD OR PLASTIC HANDLE IS LOOSENED TO MOVE AND SET THE ADJUSTABLE FINGER FROM THE FLAT BLADE. THE PAD COUNTER CAN BE SET FROM 1 TO 50 MILLIMETERS THICK.

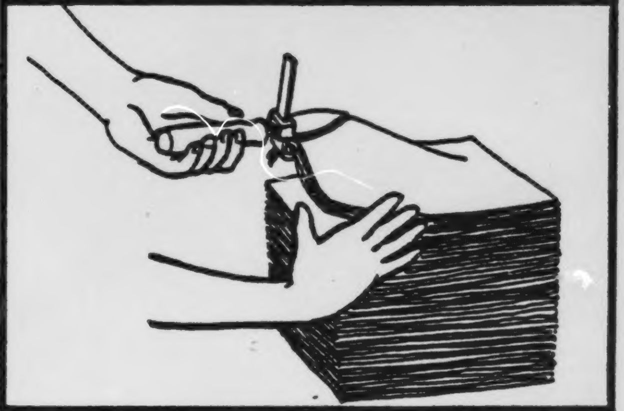


JOB STEPS

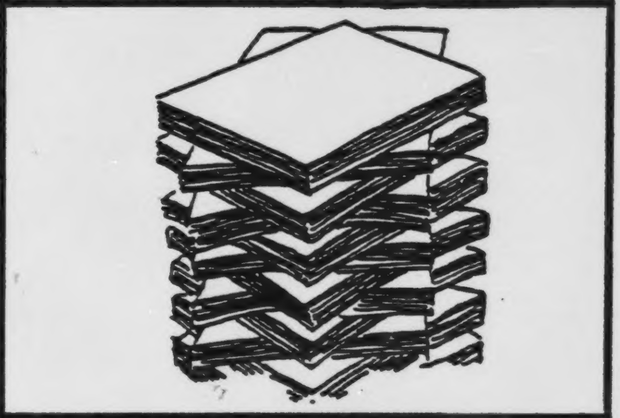
15. TO SET THE PAD COUNTER, LOOSEN THE FINGER AND PLACE THE NUMBER OF SHEETS YOU WANT TO COUNT BETWEEN THE FLAT BLADE AND FINGER. HOLDING THE BLADE AND FINGER SNUG AGAINST THE PAPER, TIGHTEN THE HANDLE. CHECK TO BE SURE THE PAD COUNTER SLIDES ONTO THIS QUANTITY OF PAPER EASILY, SNUG, BUT NOT TOO TIGHT OR TOO LOOSE.



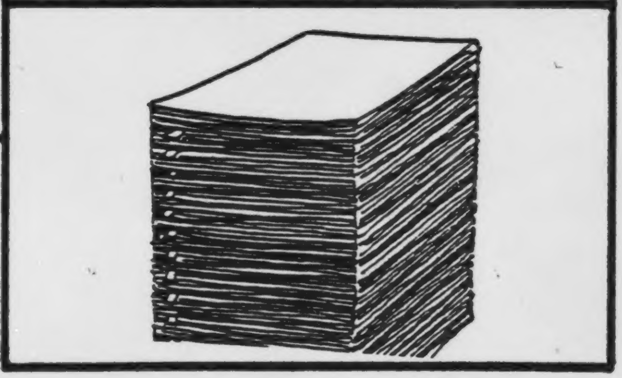
16. BE SURE THE FLAT BLADE IS FLAT ON TOP OF THE PAPER AS IT GOES IN. AN UP OR DOWNWARD ANGLE OR A TWIST WILL CAUSE AN INCORRECT COUNT. WHEN USED PROPERLY, THE PAD COUNTER IS 99% ACCURATE EVERY TIME. SLIDE THE PAD COUNTER GENTLY INTO THE PILE AND REMOVE EACH COUNTED LIFT TO A SECOND PILE.



17. SET THE PAD COUNTER FOR 100 SHEETS AND DIVIDE YOUR ENTIRE PILE INTO A STAGGERED PILE OF 50 LIFTS OF 100 EACH. DOUBLE CHECK YOUR ACCURACY MANY TIMES.



18. GET (OR CUT) AT LEAST 50 SMALL PIECES OF COLORED PAPER TO USE AS TABS (1-2 CM WIDE AND 5-10 CM LONG). INSERT A COLORED TAB NEAR ONE CORNER OF EACH LIFT YOU JUST COUNTED (STICKING OUT ABOUT 1-2 CM). NEATLY, JOG EACH LIFT AND STACK IT IN A PILE WITH THE TABS IN NEAT ORDER. THE ENTIRE 1/2 METER STACK MUST BE PERFECT, STRAIGHT AND EACH LIFT THE SAME THICKNESS.



19. HAVE YOUR INSTRUCTOR INSPECT YOUR JOGGED STACK OF PAPER WITH 50 UNIFORM AND NEAT TABS EVERY 100 SHEETS. SEVERAL LIFTS WILL BE CHECKED. YOU WILL BE ASKED TO COUNT SOME PAPER AND YOU WILL BE TIMED.

graphics

unit: FINISHING AND BINDING

capital area career center

module: 1401 14 004
1401 14 004 3 **date:** 2/77 **level:** III

skill title: HOW TO USE A HAND NUMBERING MACHINE

developed & written by: GLEN PETTIT & DWIGHT SMITH

visuals by: GLEN COOLEY

WORD GUIDE

SEQUENCE - ONE NUMBER FOLLOWS ANOTHER LIKE 1, 2, 3, 4, 5, 6, 7, 8, 9; OR SETS OF NUMBERS FOLLOWING OTHER SETS LIKE, 1 1 1, 2 2 2, 3 3 3.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO USE A HAND NUMBERING MACHINE.

IN ORDER TO DO THIS YOU WILL NEED:

A HAND NUMBERING MACHINE
PENCIL OR PEN
PLASTIC SETTING STICK
SCRAP PAPER
LINED PAPER

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN USE A HAND NUMBERING MACHINE AND YOUR WORK MEETS THESE MINIMUM REQUIREMENTS:

1. THE REQUESTED SEQUENCE IS 100% ACCURATE.
2. THE NUMBERS ARE WITHIN 2MM OF EXACT POSITION.
3. THE NUMBERS PRINT CLEARLY AND ARE NOT SMEARED OR OVER-INKED.

WORD GUIDE

PLATEN PRESS - ALSO CALLED LETTERPRESS, USES LEAD TYPE TO PRINT.

OFFSET PRESS - PRINTS WITH PLATES, ALSO CALLED LITHO PRINTING.

INFORMATION

MANY TYPES OF PRINTED FORMS ARE NUMBERED. BUSINESSES AND COMPANIES USE INVOICES, REPAIR ORDERS, CHECKS, RECEIPTS, ETC. THEY KEEP THESE FORMS TO CHECK ON LATER, AND NEED GOOD NUMBERING TO KEEP TRACK OF THEM.

IF ONE OF THESE FORMS HAS MORE THAN ONE SHEET, A NUMBERING MACHINE CAN PRINT THE SAME NUMBER ON ALL THE SHEETS.

YOU WILL USE A HAND NUMBERING MACHINE. THERE ARE NUMBERING MACHINES THAT CAN FIT INSIDE A PLATEN PRESS. OTHERS CAN BE USED ON AN OFFSET PRESS. THESE MACHINES CAN NUMBER FORWARD OR BACKWARD. THEY CAN PRINT ONE NUMBER OF MANY NUMBERS IN SEQUENCE.

THE HAND NUMBERING MACHINE HAS SIX SETTINGS. THE SETTINGS ARE:

0 (REPEATS) 1 1 1 1 1 1 1 1 1 (ALL SAME NUMBER)

1 (SEQUENCE) 1 2 3 4 5 6 7 8 9

2 (DUPLICATE) 1 1 2 2 3 3 4 4 5 5 (2 NUMBERS)

3 (TRIPLICATE) 111 222 333 444 555 (3 NUMBERS)

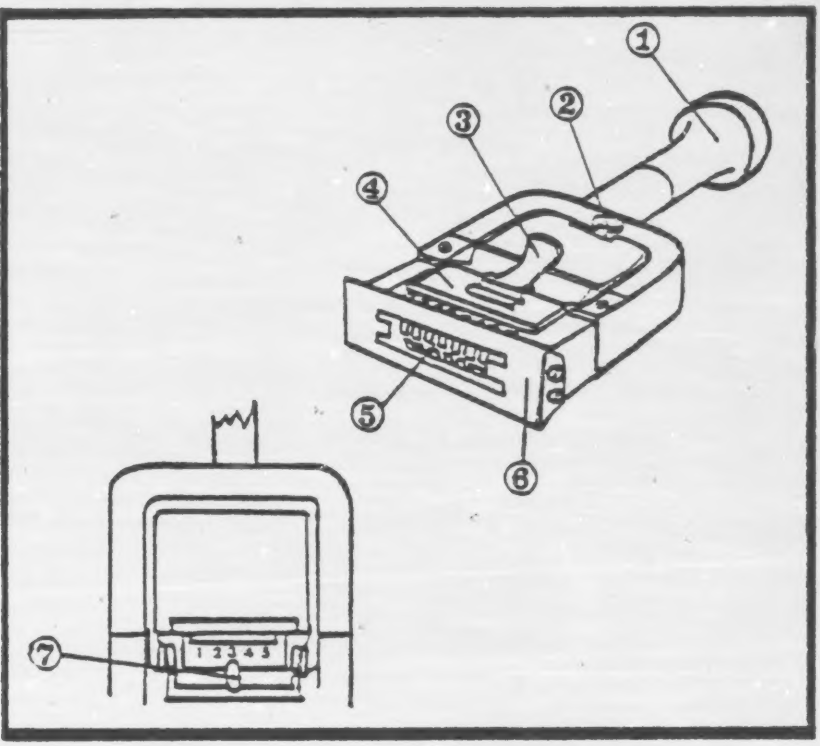
4 (QUADRUPLICATE) 1111 2222 3333 4444 (4 NUMBERS)

6 (SIX TIMES) 111111 222222 333333 444444

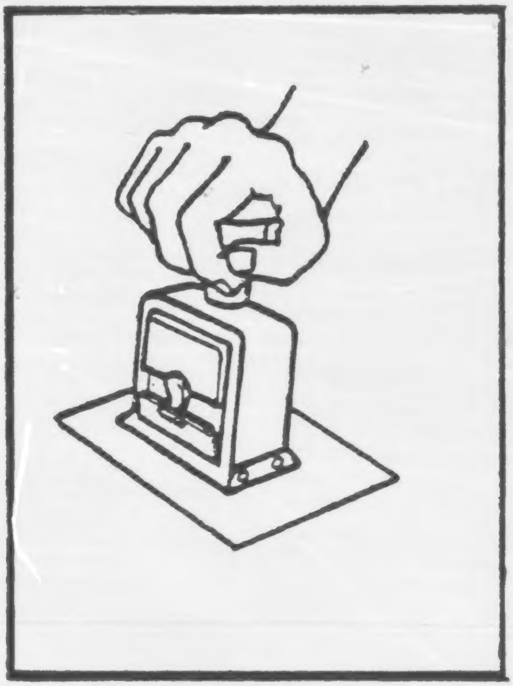
JOB STEPS

1. GET THE HAND NUMBERING MACHINE. FIND THE PARTS.

1. GRIP
2. LATCH
3. PAD HOLDER LEVER
4. PAD HOLDER
5. DIGIT WHEELS
6. GUIDE PLATE
7. SEQUENCE ADJUSTOR



2. GET A SCRATCH PAD OR 5 TO 6 PIECES OF SCRAP PAPER. PUT THE MACHINE ON TOP OF THE PAPER WITH THE GRIP UP. PUSH THE LATCH IN TO RELEASE THE DIGIT WHEELS. PUSH DOWN ON THE GRIP 4 OR 5 TIMES AND NOTICE THE NUMBER CHANGES BY ITSELF.



JOB STEPS

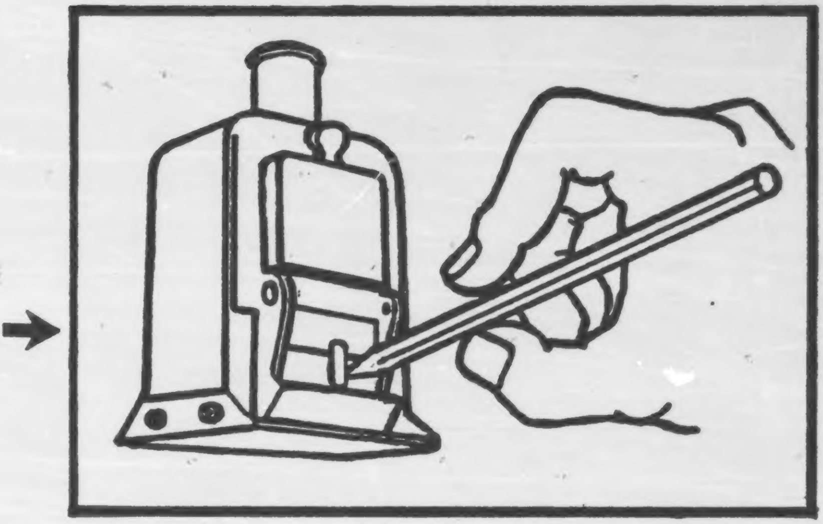
WORD GUIDE

IMPRESSIONS - PRINTING CYCLE; EACH TIME YOU PRINT IS AN IMPRESSION.

BROKEN - NOT COMPLETELY PRINTING.

DIGIT WHEELS - WHERE THE NUMBERS ARE YOU PRINT WITH.

3. PUSH THE SEQUENCE ADJUSTOR IN AND MOVE IT TO THE 3 MARK. PRINT THE NUMBERS AT LEAST 12 TIMES, WHILE MOVING THE MACHINE BETWEEN IMPRESSIONS. IT WILL CHANGE EVERY THREE TIMES YOU PRINT WITH IT. THIS IS CALLED TRIPLICATE NUMBERING.



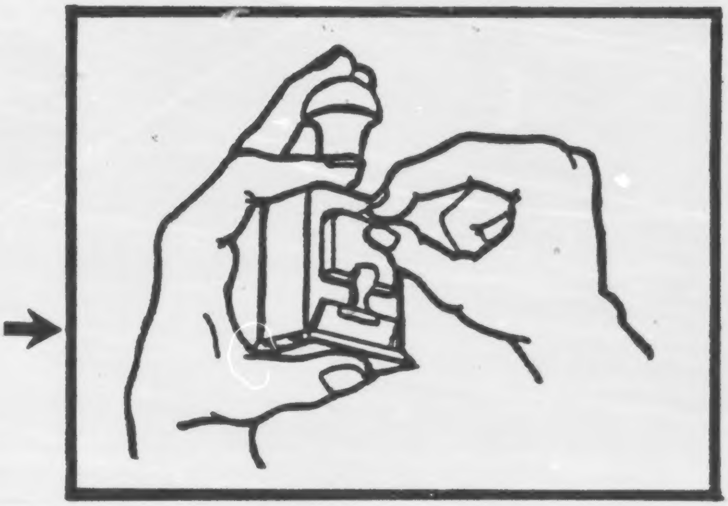
4. MOVE THE SEQUENCE ADJUSTOR TO THE 1. PRINT 12 IMPRESSIONS. THE NUMBER WILL CHANGE EACH TIME. THIS IS CALLED CONSECUTIVE NUMBERING.

5. RESET THE NUMBERS (DIGIT WHEELS) TO 000000, LIKE THIS:

A. PUSH THE GRIP ALL THE WAY DOWN.

B. SLIDE THE LATCH TO LOCK THE DIGIT WHEELS IN PLACE.

C. TURN EACH DIGIT WHEEL TO THE NUMBER YOU NEED TO START WITH. USE THE PLASTIC SETTING STICK OR A BALL POINT PEN. MOVE THE NUMBERS FROM 1 TO 2 TO 3, ETC.



JOB STEPS

6. PRINT FROM 000000 TO 000012. SEE THE EXTRA 0'S. TO GET RID OF THEM, YOU MUST "SINK" OR LOWER THEM SO THEY DO NOT PRINT. FOLLOW THESE STEPS ON ALL 0'S.

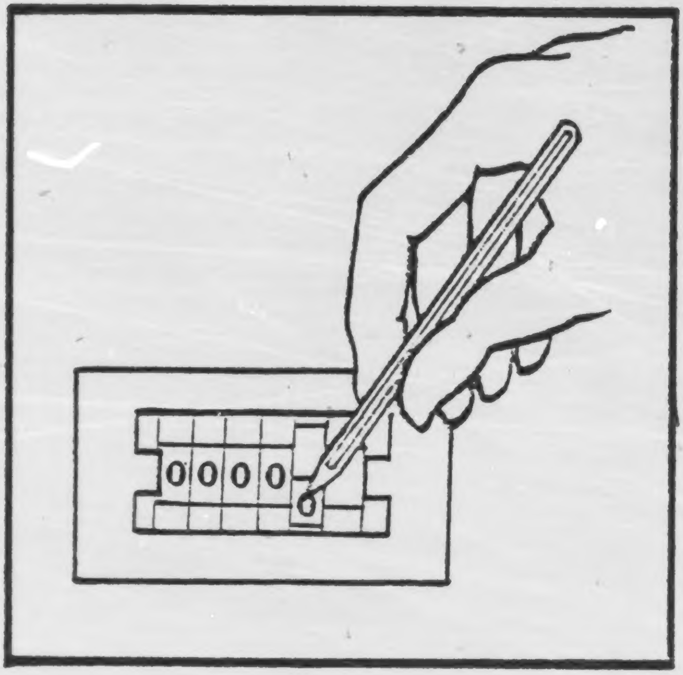
A. PUSH THE GRIP ALL THE WAY DOWN.

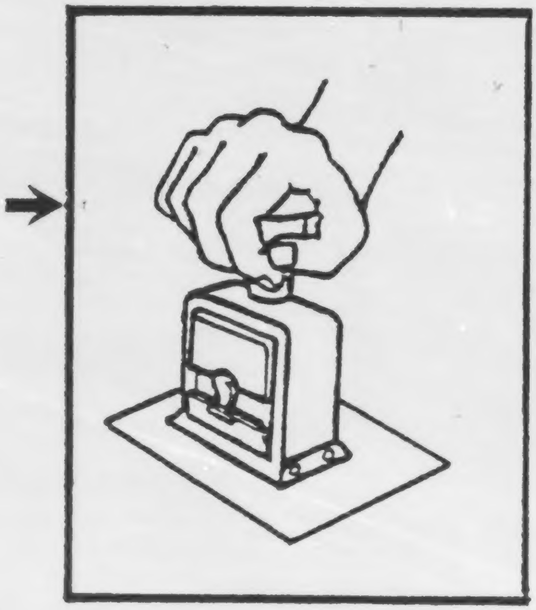
B. SLIDE THE LATCH TO LOCK THE DIGIT WHEELS IN PLACE.

C. TURN THE DIGIT WHEEL TO 0.

D. SLOWLY TURN THE DIGIT WHEEL TOWARD 1 WHILE PUSHING DOWN ON THE DIGIT WHEEL.

E. THE 0 WILL "SINK" OUT OF PLACE AND WILL NOT PRINT.





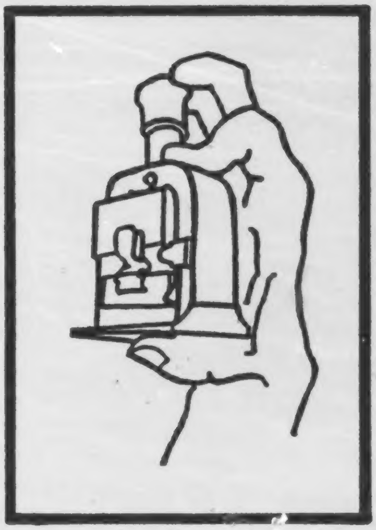
F. PRINT WITH IT 6 OR 7 TIMES.

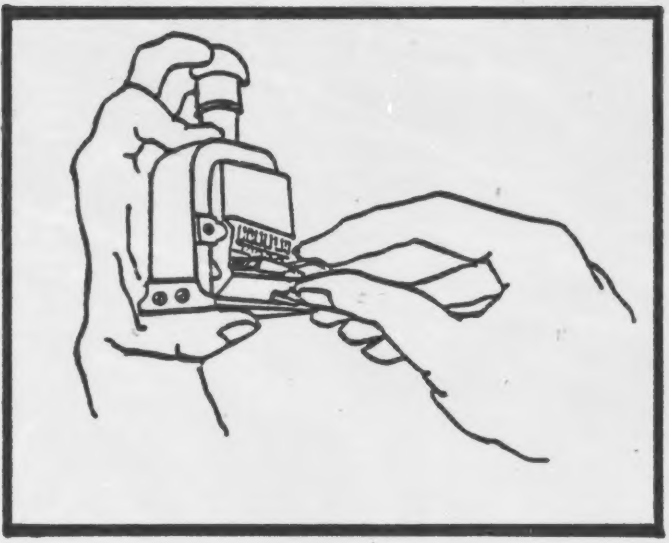
7. CHECK THE QUALITY OF THE NUMBERS YOU ARE PRINTING. IF THEY ARE FUZZY AND BLACK, IT MEANS THERE IS TOO MUCH INK ON THE PAD. IF THEY ARE GRAY OR BROKEN, THERE IS NOT ENOUGH INK ON THE PAD. INSPECT THE NUMBERS YOU HAVE PRINTED. ARE THEY GOOD QUALITY?

JOB STEPS

8. THE NUMBERING MACHINE DOES NOT NEED INKING VERY OFTEN. IF YOU THINK IT NEEDS INKING, ASK YOUR INSTRUCTOR TO CHECK IT. IF IT DOES NEED TO BE INKED, DO IT LIKE THIS:

A. PUSH THE GRIP DOWN ENOUGH TO SHOW THE PAD (3-5 MM). →





B. SQUEEZE THE PAD HOLDER LEVER.

C. CAREFULLY PULL THE INK PAD OUT. →

D. SPREAD OUT 2 OR 3 DROPS OF SPECIAL INK ON THE PAD AND PUT THE PAD BACK IN THE MACHINE.

9. THE GUIDE PLATE ON THE BOTTOM OF THE MACHINE IS TO HELP YOU PRINT THE NUMBERS IN THE EXACT PLACE THEY SHOULD GO. DRAW SOME GUIDE LINES AND PRACTICE PRINTING THE NUMBERS EXACTLY WHERE YOU WANT THEM.

JOB STEPS

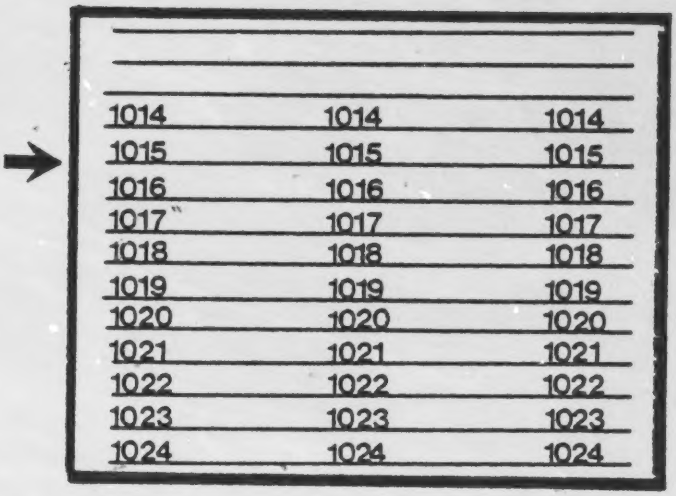
10. GET A SHEET OF LINED PAPER. YOU WILL PRINT ON IT FROM 1001 TO 1025. START AT THE TOP OF THE PAPER AND GO DOWN. DO IT IN TRIPLICATE, WITH EACH COLUMN THE SAME. PRACTICE UNTIL YOU CAN:

    A. DO ALL 3 COLUMNS WITH 100% ACCURACY.

    B. THE NUMBERS ARE WITHIN 2MM OF THE LINE.

    C. THE NUMBERS PRINT CLEARLY.

    D. THE NUMBERS ARE NOT SMEARED OR OVER-INKED.



1014	1014	1014
1015	1015	1015
1016	1016	1016
1017	1017	1017
1018	1018	1018
1019	1019	1019
1020	1020	1020
1021	1021	1021
1022	1022	1022
1023	1023	1023
1024	1024	1024

11. WHEN YOU HAVE MET THE STANDARDS FOR GOOD NUMBERING, SHOW THE SHEET TO YOUR INSTRUCTOR. TAKE THE NUMBERING MACHINE WITH YOU AND BE READY TO ANSWER SOME QUESTIONS ABOUT IT.

graphics

unit: FINISHING AND BINDERY

capital area career center

module: 1401 14 005
1401 14 005 3 date: 12/77 level:

skill title: PADDING: BASIC PADDING TECHNIQUES

developed & written by: GLEN PETTIT

visuals by: DANA MARVIN

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO DIVIDE THE PILE INTO DESIRED AND EQUAL PARTS, PUT IN CHIPBOARD AND STACK THE ENTIRE PILE NEATLY WITH A WEIGHT ON IT.
2. HOW TO PAD THE ENTIRE PILE WITH PADDING COMPOUND AND THEN CUT THE PADS APART WHEN DRY.

IN ORDER TO DO THIS YOU WILL NEED:

A PILE OF PAPER
CHIPBOARD
PADDING COMPOUND
NEWSPAPER SCRAP
SEVERAL BRICKS
PAD COUNTER
PAD CUTTER
BRUSH

WE WILL KNOW YOU CAN DO IT WHEN:

1. ALL THE PADS ARE NEAT AND UNIFORM IN THICKNESS.

2. ALL SHEETS ARE TIGHT IN A PAD BUT WILL EASILY TEAR OFF AS DESIRED.

3. YOU HAVE APPLIED AN EVEN COAT OF COMPOUND WITH NO DRIPS, RUNS OR BARE SPOTS AND THERE IS NO EXCESS COMPOUND ON THE SIDES OF THE PILE.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

JOGGED - SHAKEN UNTIL EDGES OF ALL PAPERS ARE EVEN WITH EACH OTHER.

SNUGLY - TIGHTLY

INFORMATION

A PAD IS SIMPLY A GROUP OF PAPERS HELD TOGETHER WITH AN ADHESIVE ON ONE SIDE AND A HEAVY CHIPBOARD ON THE BOTTOM. ONLY THE EDGE OF THE PAPER IS PADDED AND CAN BE REMOVED FROM THE PAD WITHOUT TEARING. THE COMPOUND MUST BE SOFT OR RUBBERY AND HOLD JUST ENOUGH TO ALLOW SINGLE SHEETS TO BE REMOVED EASILY.

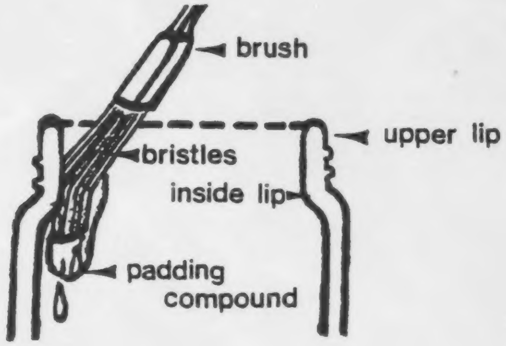
PADDING COMPOUND IS USUALLY RED OR WHITE, COSTING ABOUT $3.00 PER LITER (QUART). THE CHIPBOARD CAN BE ANY HEAVIER PAPER OR CARD.

IN BASIC PADDING, IT IS VERY IMPORTANT TO HAVE THE ENTIRE PILE "JOGGED" TO THE PADDING EDGE -- ANY SHEETS WHICH DO NOT RECEIVE THE PADDING COMPOUND WILL FALL OUT. THE PILE MUST ALSO BE PERFECTLY STRAIGHT WHEN STACKED.

WITH A STRAIGHT, NEAT AND JOGGED PILE -- A WEIGHT (LIKE 2 BRICKS) IS SET ON TOP TO HOLD THE ENTIRE PILE. GENTLY HOLD THE BRICKS DOWN WHILE YOU ARE PADDING. APPLY A VERY THIN LAYER OF PADDING COMPOUND FIRST (THIS WILL BE VERY PINK ON WHITE PAPER). FIVE MINUTES LATER, WHEN THE FIRST COAT IS DRY, APPLY A SECOND COAT OF COMPOUND. THIS COAT SHOULD BE THICKER BUT NOT SO THICK AS TO RUN OR DRIP. ALWAYS APPLY COMPOUND NEAR THE CENTER OF THE PILE FIRST AND CAREFULLY BRUSH OUT TOWARD THE SIDES.

IN PADDING, BE VERY CAREFUL THE BRUSH DOES NOT HIT THE SIDE ON THE RETURN STROKE. PADDING COMPOUND ON THE SIDES LOOKS VERY SLOPPY AND WILL CAUSE THE CORNERS OF THE PAPER TO TEAR WHEN REMOVED.

WHEN REMOVING PADDING COMPOUND FROM THE CONTAINER, ONLY DIP THE BRUSH IN ABOUT ONE CENTIMETER (1/2"). ANY EXCESS SHOULD BE WIPED ON THE INSIDE LOWER LIP OF THE CONTAINER. TO CLOSE THE LID ON THE CONTAINER, FIRST BE SURE THE LIP, LID AND "THREADS" ARE CLEAN. SCREW ON THE LID SNUGLY AND THEN UNSCREW THE LID 1/4 TURN (THIS WILL PREVENT THE LID FROM "FREEZING" ON THE CONTAINER.

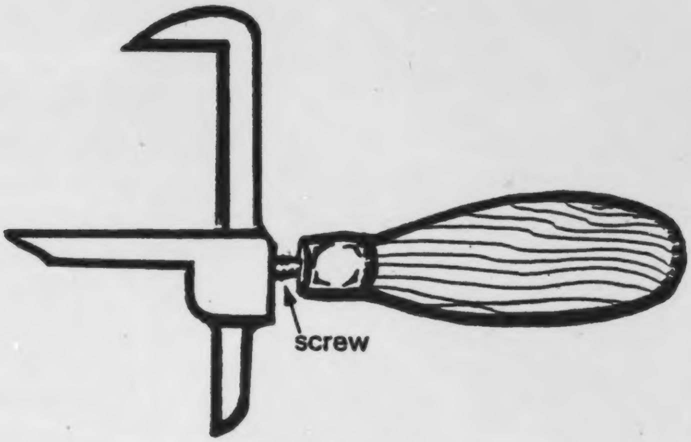


INFORMATION

IT IS BEST TO ALWAYS WORK ON SOME SCRAP PAPER (OLD NEWSPAPER) AS DRIPS OF COMPOUND ARE DIFFICULT TO CLEAN WHEN DRIED. IT HELPS TO HAVE A FEW SHEETS EXTRA OF THE SAME SIZE PAPER AS THAT YOU ARE PADDING ON THE VERY TOP AND BOTTOM OF THE PILE. THESE ARE THROWN OUT LATER AND IT MAKES FOR A CLEANER JOB.

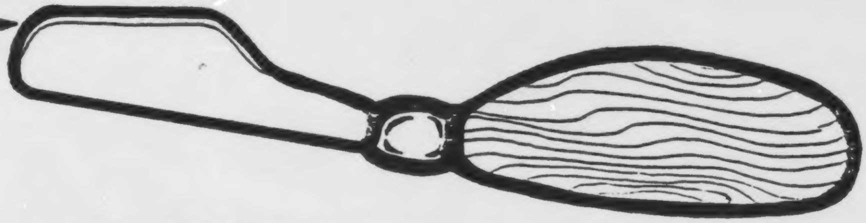
A QUICK AND EASY WAY TO DIVIDE YOUR PILE EQUALLY IS TO USE A PAD COUNTER. COUNT THE NUMBER OF SHEETS YOU DESIRE PER PAD, SET THE COUNTER FOR THIS AND THEN PUT THIS COUNTER INTO THE PILE TO REMOVE THE EXACT COUNT EACH TIME.

PAD COUNTER



THE PAD CUTTER IS USED TO CUT THE FINISHED PADS APART FROM THE PILE. THE OBJECT IS TO KEEP ABOUT HALF THE BLADE IN THE PILE TO PREVENT ACCIDENTLY TWISTING THE BLADE AND CUTTING INTO THE PAPER.

CAUTION: blade is sharp



PAD CUTTING KNIFE

SEE JOB STEP #9 IF THIS IS A "FREE FLOATING" MOD (BY ITSELF, WITHOUT A PRINTED JOB TO USE). STEP #9 GIVES YOU THE ACTUAL SIZES FOR A LEARNING PRACTICE MOD. IF YOU HAVE DONE THIS BEFORE, YOU MAY COMBINE THIS MOD WITH THE NEXT MOD, #1401 14 006 "USING A PRESSURE UNIT AND PADDING PRESS".

A 1 TO 4 CM WIDE REGULAR BRUSH IS NORMALLY USED. BE CAREFUL NOT TO ALLOW THE PADDING COMPOUND TO GET TOO FAR IN THE BRISTLES. WASH BRISTLES WITH HOT WATER AND REGULAR HAND SOAP IMMEDIATELY WHEN FINISHED.

WORD GUIDE

CIRCULAR - IN A CIRCLE

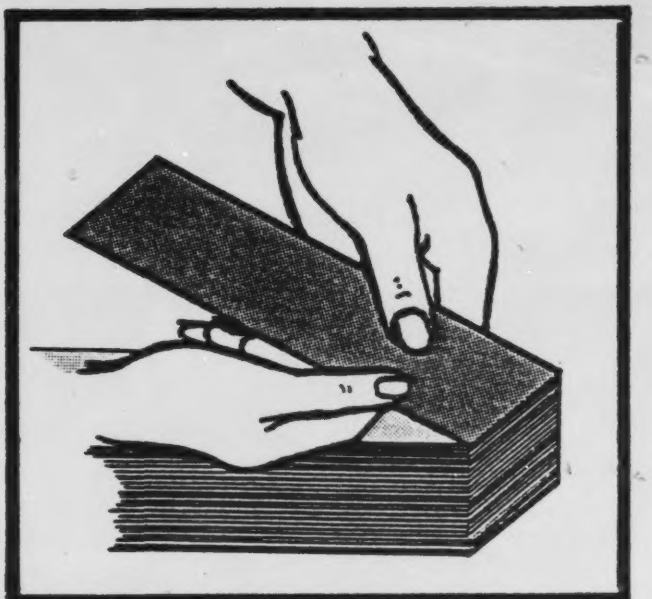
JOB STEPS

1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

2. FIGURE OUT THE NUMBER OF SHEETS PER PAD AND COUNT OUT THIS NUMBER. JOG THE PAPER IN A NEAT PILE AND, USING THE PAD COUNTER, DIVIDE THE ENTIRE PILE.

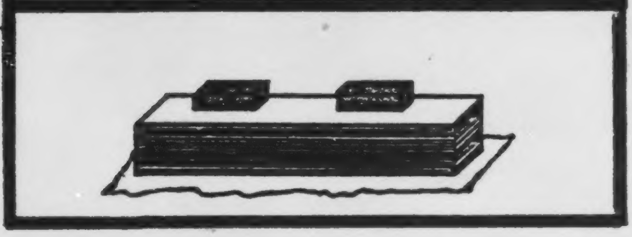
3. IF JUST A FEW SHEETS ARE LEFT, ADD ONE OR TWO TO EACH PILE. IF SEVERAL DOZEN SHEETS ARE LEFT, MAKE A SMALL PAD.

4. PUT A CHIPBOARD OF THE SAME JOB SIZE ON THE BOTTOM OF EACH PAD AND PLACE AN EXTRA ONE ON TOP OF THE PILE.

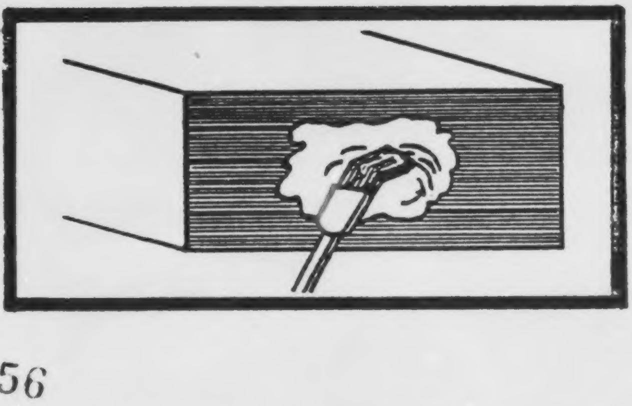


5. CAREFULLY JOG THE ENTIRE PILE TO THE SIDE AND THE EDGE TO BE PADDED.

6. PLACE THE NEAT PILE ON A SCRAP PIECE OF PAPER SO IT IS PERFECTLY STRAIGHT. PLACE TWO BRICKS ON TOP OF THE PILE, BEING CAREFUL NOT TO UPSET THE PILE.



7. DIP YOUR BRUSH INTO THE PADDING COMPOUND, ABOUT ONE CENTIMETER AND APPLY TO THE CENTER OF THE PILE (PADDING SIDE).
    A. WORK THE COMPOUND IN WITH A CIRCULAR MOTION, YET STAYING AWAY FROM THE EDGES.
    B. BRUSH THE COMPOUND FROM THE CENTER TO THE SIDES. BE VERY CAREFUL THE BRUSH DOES NOT GET COMPOUND ON THE SIDES OF THE PILE.



JOB STEPS

7. B. THIS FIRST COAT MUST BE VERY THIN AND SHOULD COMPLETELY DRY IN LESS THAN 5 MINUTES.
   C. WRAP YOUR BRUSH IN A WET PAPER TOWEL FOR A FEW MINUTES.

8. BRUSH ON THE SECOND HEAVIER COAT IN THE SAME MANNER, WORKING FROM THE CENTER OUT (NEVER FROM THE EDGE IN). THIS SECOND COAT MUST NOT SAG OR RUN (KEEP BRUSHING IF IT DOES). DOUBLE CHECK YOURSELF; THE ENTIRE SIDE SHOULD BE RED AND EVEN. THE FOUR CORNERS ARE OFTEN OVERLOOKED.

9. WASH THE PADDING BRUSH IN WARM WATER. BE SURE TO REMOVE ALL TRACES OF COMPOUND (CHECK YOUR BRUSH 24 HOURS LATER TO BE SURE) AND BE SURE YOUR COMPOUND CONTAINER IS CLEAN.

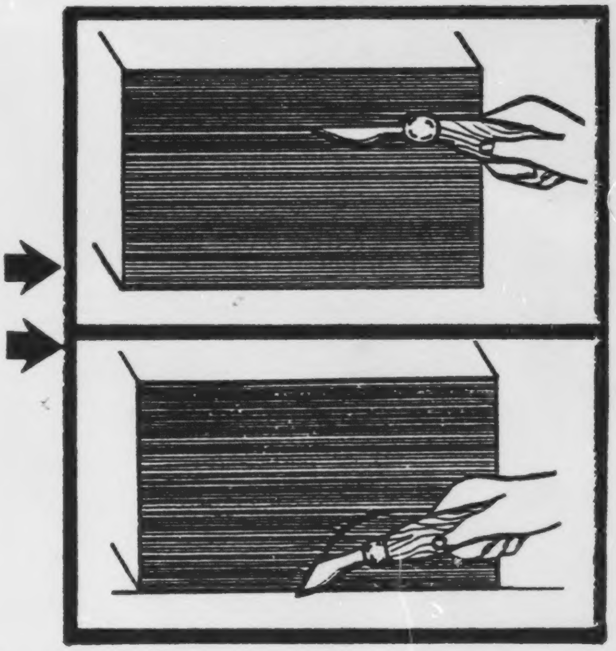
10. REMOVE THE BRICKS AND ALLOW AT LEAST 15 MINUTES TO DRY (AVOID FORCED DRYING WITH A HEATER).

11. USING THE PAD CUTTER, CAREFULLY CUT APART THE FINISHED PADS. BE CAREFUL NOT TO TWIST THE BLADE (DON'T CUT INTO THE COUNTER TOP).

12. DISCARD ALL UNNECESSARY SCRAP AND RETURN ALL EQUIPMENT.

13. CHECK YOUR WORK. HAVE THE INSTRUCTOR/MANAGER EVALUATE.

DO's

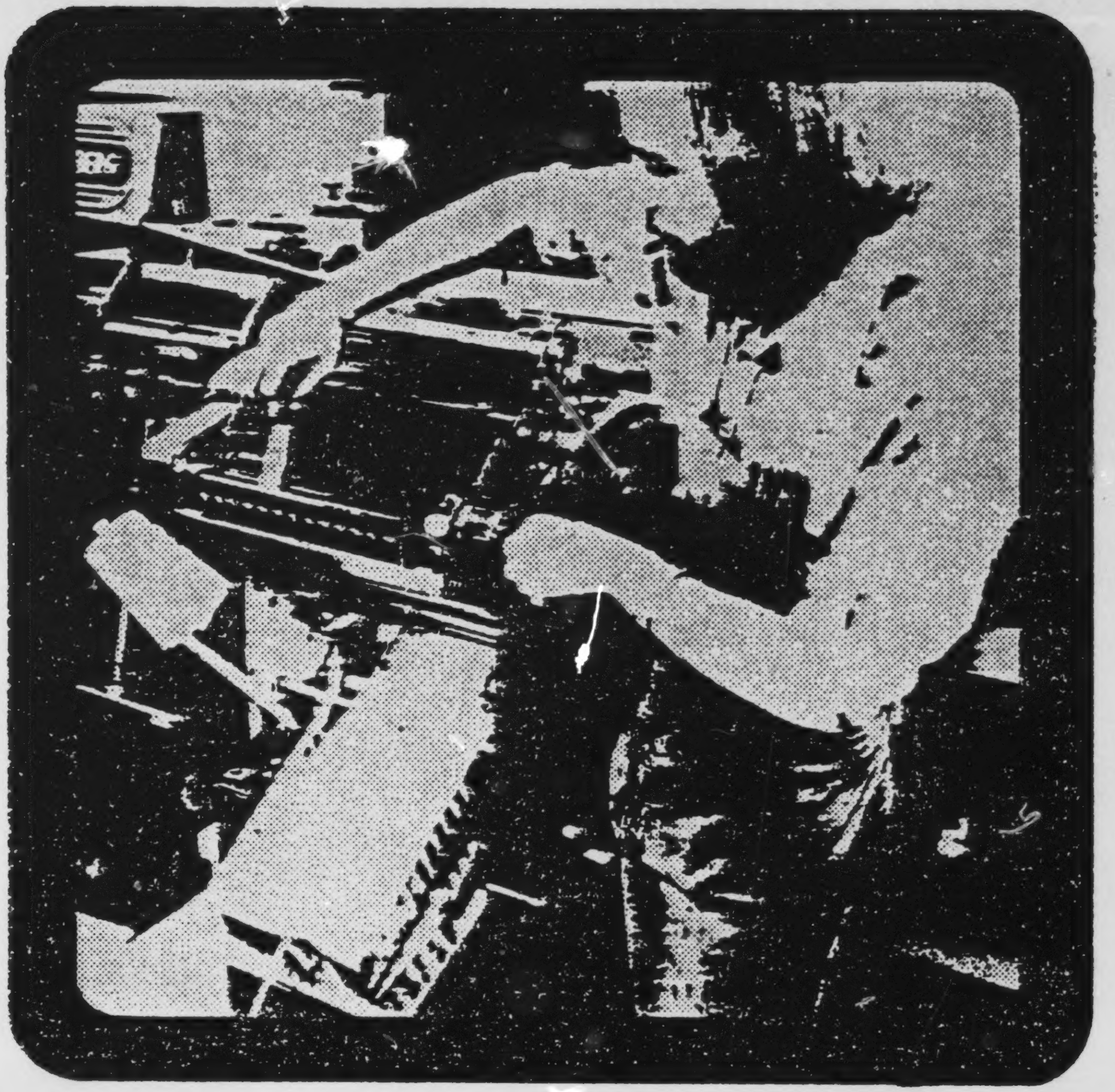


DON'T's

JOB STEPS

14. GET ABOUT A 5 CM PILE OF SCRAP PAPER (PRINTED ONE SIDE: 8 1/2 X 11" WHITE) FROM THE SCRAP BOX.
    - A. COUNT OUT 100 SHEETS (ABOUT ONE CENTIMETER) AND SET THE PAD COUNTER.
    - B. INSERT CHIPBOARD (USE 8 1/2 X 11" CHIPBOARD).
    - C. SET THE PAPER CUTTER (OR HAVE SOMEONE DO IT FOR YOU) FOR 5 1/2" AND CUT THE STACK DOWN TO 5 1/2 X 8 1/2".
    - D. WITH THE CUT SIDE AS THE SIDE TO BE PADDED, PAD THIS 10 CM HIGH PILE (10 PADS) AS IN STEPS 2 THROUGH 13.

15. WHEN FINISHED, THE INSTRUCTOR/ MANAGER WILL EVALUATE AND TAKE CARE OF THE PADS FOR YOU. ASK BEFORE STARTING; THERE MAY BE A PRODUCTION JOB OR SPECIAL REQUEST.



graphics

unit: FINISHING AND BINDERY

capital area career center

module: 1401 14 006
1401 14 006 3

date: 12/77 level:

skill title: PADDING: USING A PRESSURE UNIT AND PRESS

developed & written by: GLEN PETTIT

visuals by: DANA MARVIN

WORD GUIDE

ALIGNED - IN PROPER POSITION

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO SET UP THE PADDING PRESS, PLACE THE JOB IN THE PRESS, REGISTER, JOG, ALIGN, APPLY PRESSURE, PAD AND REMOVE THE JOB.

IN ORDER TO DO THIS YOU WILL NEED:

A PRESSURE UNIT, PADDING PRESS, A JOB TO BE PADDED
PADDING COMPOUND
CHIPBOARD
PAD CUTTER
PAD COUNTER
BRUSH

WE WILL KNOW YOU CAN DO IT WHEN:

1. THE PADDING PRESS IS CLEAN AN IN PERFECT WORKING CONDITION.
2. THE FINISHED WORK IS STRAIGHT, ALIGNED, WITH ADEQUATE COMPOUND, CUT APART CLEANLY AND DONE IN MINIMUM TIME.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

JOGGED - SHAKEN SO EDGES ARE LINED UP WITH EACH OTHER

CORRESPOND TO - RELATE TO

INFORMATION

THERE ARE MANY TYPES OF PADDING PRESSES. BASICALLY, A PADDING PRESS CAN HOLD SEVERAL DOZEN PADS PERFECTLY STRAIGHT AND ALIGNED WHILE PADDING. IN A PADDING PRESS, THE JOB IS JOGGED AND ALIGNED AGAINST A FLAT BOARD AND TO A GUIDE SIDE (THESE CORRESPOND TO THE PRESS GRIPPER AND GUIDE). WHEN THE DESIRED PILE IS MADE, A TOP BOARD IS CLAMPED OR TIGHTENED TO A LOWER BOARD. THE JOB IS REMOVED FROM THE PADDING PRESS AND WHEN DRY, THE ALIGNED OR FLAT SIDE IS THEN PADDED (2 COATS), THE BOARDS REMOVED AND THE JOB CUT APART.

MANY SHOPS STILL USE THE OLD HAND AND WEIGHT SYSTEM. THE "WEIGHT ON TOP" HAND SYSTEM CAN PRESENT A LOT OF PROBLEMS. USE OF A PADDING PRESS CAN GREATLY SPEED WORK AND IMPROVE QUALITY.

NOTE: TWO PILES CAN BE PADDED IN ONE PRESSURE UNIT AT ONCE, IF YOU ARE SURE THEY ARE EXACTLY THE SAME HEIGHT. OFTEN, WITH SMALL SIZE PADS, AN EXTRA REAR-SUPPORT BAR MUST BE USED TO PREVENT "POPPING" (TIGHT CHAINS BENDING THE TOP UNIT BACK TOO FAR).

MAINTENANCE: PADDING COMPOUND WILL OFTEN BUILD UP ON THE PRESSURE UNIT BOARDS. IT IS SOMETIMES NECESSARY TO SAND THIS OFF. TO STOP THIS, APPLY MASKING TAPE WHERE COMPOUND MIGHT STICK. THEN, EVERY 5 - 6 TIMES YOU USE IT, APPLY A THIN LAYER OF GREASE ON TOP OF THE TAPE. A LITTLE GREASE ON THE PADDING COMPOUND JAR WILL HELP (INSIDE LID AND ON "THREADS").

ALWAYS LEAVE THE WINGNUTS NEAR THE ENDS OF THE PRESSURE BOLTS (READY FOR THE NEXT PERSON). THERE IS NO NEED TO REMOVE THE BOLTS.

LOOK OVER THE INSTRUCTION SHEET ON THE NEXT PAGE.

YOU MUST HAVE COMPLETED OR READ ALL OF THE PRIOR MOD (#1401 14 005 "BASIC PADDING TECHNIQUES") BEFORE ATTEMPTING THIS MOD.

CHECK WITH THE INSTRUCTOR/MANAGER TO SEE IF THERE ARE ANY PRODUCTION JOBS WHICH MAY NEED PADDING SOON. IF NOT, REFER TO STEP #16 FOR A SAMPLE JOB.

WORD GUIDE

SNUG - TIGHT

JOB STEPS

1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

2. PUT TOGETHER THE PADDING PRESS:
    A. PLACE THE BACK ALIGNMENT BOARD IN THE BOARD BASE
    B. PLACE THE BASE OF THE PRESSURE UNIT IN THE BASE (WITH CHAINS OUT) SECURELY SEATED.

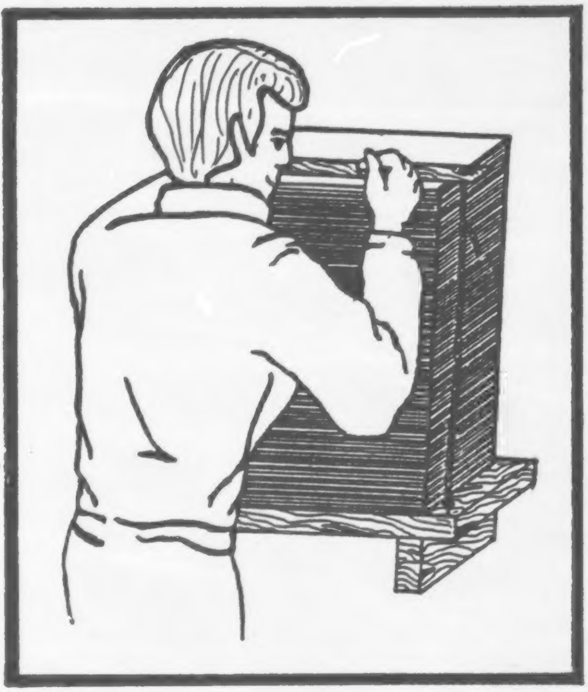
3. COUNT, DIVIDE AND PUT THE CHIPBOARD IN THE JOB TO BE PADDED.

4. JOG THE PADS, A FEW AT A TIME (3 - 5 CM IS EASY TO HANDLE AT ONCE), AND PLACE IN THE PRESS WITH THE SIDE TO BE PADDED SNUG AGAINST THE BACK ALIGNMENT BOARD AND TO EITHER SIDE OF THE UNIT (SAME AS THE REGISTER SIDE ON THE PRESS).

5. WHEN THE PADDING PRESS IS ABOUT 1/3 METER (35 CM) HIGH, STOP. PLACE THE TOP PRESSURE UNIT ON THE PILE (AN EXTRA CHIPBOARD ON TOP OF THE PILE WILL SAVE THE TOP SHEET).

6. WITH THE PRESSURE BOLTS DOWN, HOOK THE CHAINS AND APPLY PRESSURE BY TURNING THE WING NUTS. THE PRESSURE MUST BE EVEN AND LEVEL.

7. THE ENTIRE PRESSURE UNIT MAY BE REMOVED: BASE, TOP BOARD AND JOB CLAMPED BETWEEN.



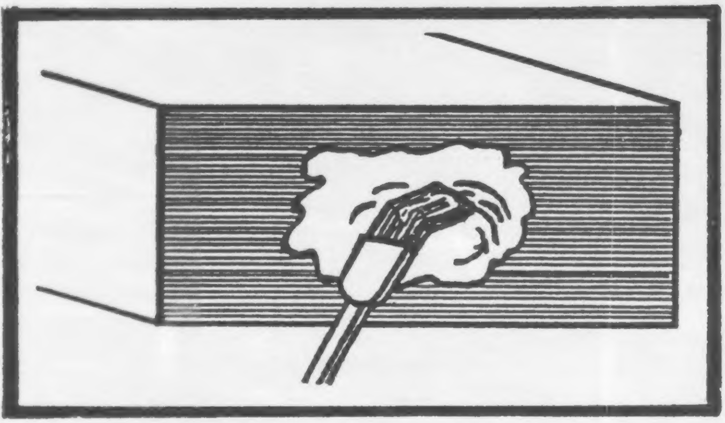
WORD GUIDE

CIRCULAR - IN A CIRCLE

JOB STEPS

8. PLACE THIS ENTIRE UNIT ON THE COUNTER AND PUT SOME SCRAP PAPER UNDER IT. CHECK TO SEE IF THERE IS SOME OIL OR GREASE ON THE FACE OF THE MASKING TAPE ON THE BOARDS (SO PADDING COMPOUND WON'T BUILD UP).

9. APPLY PADDING COMPOUND NEAR THE CENTER TOP. WORK INTO THE PAPER WITH A CIRCULAR MOTION, THEN WIPE TO THE OUTSIDE. BE CAREFUL YOU DON'T GET ANY ON THE SIDES. ALWAYS START ON THE PAD AND WORK OFF. THIS FIRST LAYER MUST BE VERY THIN OR "PINK".



10. AFTER FIVE MINUTES, APPLY A SECOND LAYER (A LITTLE THICKER, BUT IT MUST NOT DRIP OR RUN). WATCH CAREFULLY FOR RUNS AND IF ONE STARTS, KEEP BRUSHING AND SPREAD IT OUT. BE SURE YOU BRUSH ALL FOUR CORNERS. HAVE SOMEONE CHECK YOUR PROGRESS.

11. LET THE PADS AIR-DRY BY THEMSELVES FOR AT LEAST 1/2 HOUR OR MORE (DON'T RUSH UNLESS NECESSARY).

12. CLEAN THE PADDING BRUSH AND CLEAN UP THE AREA WHILE WAITING.

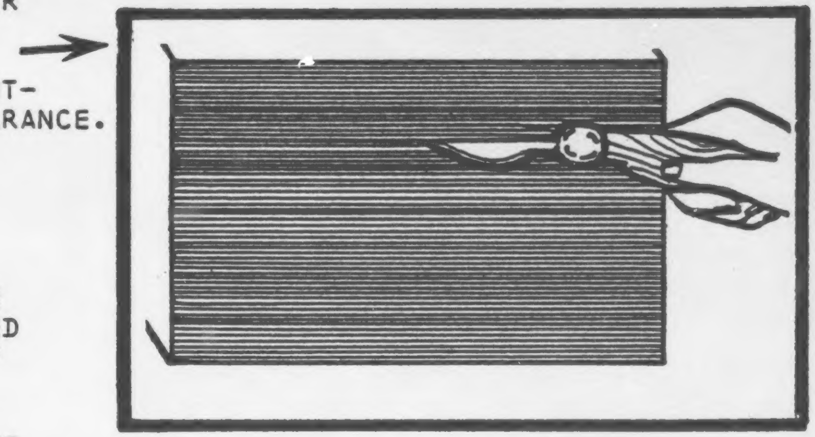
13. WHEN COMPLETELY DRY, REMOVE FROM THE PRESSURE UNITS (UNSCREW UPPER PRESSURE BOLTS TO MAXIMUM; WING NUTS TO END) AND STORE.

WORD GUIDE

RAGGED - CHOPPY

JOB STEPS

14. CAREFULLY CUT THE INDIVIDUAL PADS APART WITH THE PAD CUTTER OR A BROAD BLADE KNIFE. A STRAIGHT OR SLIGHTLY INWARD CUT IS NEATEST; A PULL, OR OUT-CUT WILL LEAVE A RAGGED APPEARANCE.



15. HAVE THE INSTRUCTOR/ MANAGER EVALUATE YOUR WORK.

16. PRACTICE JOB:
    - A. GET ABOUT A 10 CM PILE OF SCRAP PAPER (PRINTED ONE SIDE: 8 1/2 X 11" 20# WHITE) FROM THE SCRAP BOX.
    - B. COUNT 100 SHEETS (ABOUT ONE CENTIMETER) AND SET THE PAD COUNTER FOR THIS.
    - C. PUT IN CHIPBOARD.
    - D. CUT (OR HAVE SOMEONE) THIS PAPER IN HALF TO 5 1/2 X 8 1/2" WITH THE CHIPBOARD IN IT.
    - E. PLACE THIS SIZE ON THE PADDING PRESS FOR PADDING. YOU SHOULD HAVE A 20 CM PILE.
    - F. PAD.
    - G. CUT THE PADS APART (STEPS #2 - 15).
    - H. HAVE THE INSTRUCTOR/ MANAGER EVALUATE YOUR WORK.
    - I. WHEN FINISHED, TRIM DOWN THESE PADS TO 4 1/4 X 5 1/2", MINUS A SLIGHT TRIM. DO NOT TRIM THESE UNLESS YOU HAVE BEEN VERY CAREFULLY CHECKED ON YOUR WORK AND HAVE AN APPROVED CUTTING CHART.
    - J. WRAP FINAL JOB 10 PADS PER PACKAGE AND SHRINK WRAP.

graphics

unit: FINISHING AND BINDING

capital area career center

module: 1401 14 007
1401 14 007 3 **date:** 11/77 **level:**

skill title: PADDING - PERFECT BINDING

developed & written by: JIM WOODWARD AND GLEN PETTIT

visuals by: MIKE SMITH

WORD GUIDE

PERFECT BIND - CLING THE EDGE OF A PILE OF PAPER SUCH AS A TELEPHONE BOOK.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO PERFECT BIND PAPER WITH THE "BIND FAST" PERFECT BINDING SYSTEM.

AND IN ORDER TO DO THIS YOU WILL NEED:

THE "BIND FAST" MACHINE AND PAPER TO BIND

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN SET UP THE "BIND FAST" AND MAKE STRONG BIND ON A PILE OF PAPER.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

AUTOMATIC - WORKS ON ITS OWN, WITHOUT HELP.

SUPERVISE - TAKE CHARGE OF.

INFORMATION

PERFECT BINDING IS NOT FOUND IN ALL PRINTING SHOPS BUT IS VERY COMMON IN SHOPS THAT PRINT MANY BOOKS. SOME SHOPS HAVE THE SOME PERFECT BINDERS LIKE THOSE YOU WILL USE. OTHERS HAVE VERY LARGE AUTOMATIC MACHINES.

WHEN YOU KNOW HOW A PERFECT BINDER WORKS AND WHAT A GOOD BIND LOOKS LIKE, YOU WILL BE ABLE TO RUN OR SUPERVISE THIS OPERATION AS AN EMPLOYEE IN THE GRAPHIC ARTS INDUSTRY. OUR SMALL UNIT COSTS ABOUT $1,000.

WORD GUIDE

GLUE CHIPS - SMALL PIECES OF GLUE TO BE MELTED IN THE GLUE POT.

GLUE POT - HOLDS AND HEATS THE GLUE.

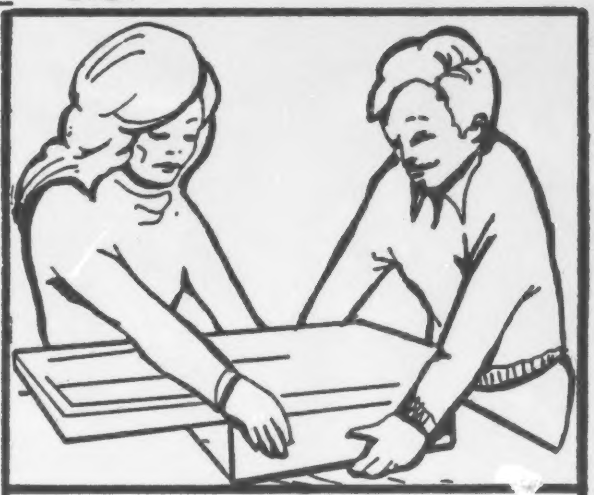
CARRIER - CARRIES THE PAPER OVER THE GLUE.

UNIFORM - EVEN

JOB STEPS

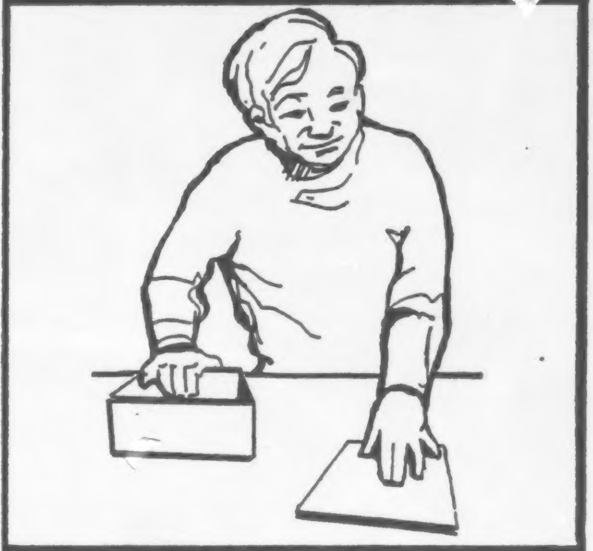
1. HAVE SOMEONE HELP YOU MOVE THE "BIND FAST" BINDER INTO A WORKING AREA WITH A LOT OF COUNTER SPACE.

CAUTION: DO NOT TRY TO CARRY IT ALONE!

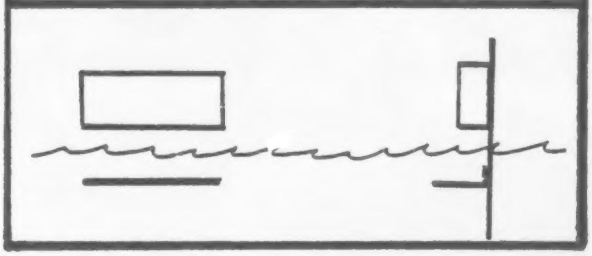


2. PLUG THE MACHINE INTO 110 VOLT OUTLET.

3. WHILE THE MACHINE IS WARMING UP FOR 15 MINUTES, TAKE 1/2 INCH PILE OF SCRAP PAPER (5 1/2" X 4 1/4") AND THE BOX OF GLUE CHIPS TO THE WORK AREA.



4. WHEN THE LARGE COATING ROLLER STARTS TURNING, THE PERFECT BINDER IS READY. CHECK THE GLUE LEVEL; THE LIQUID GLUE MUST BE BETWEEN THE TWO METAL MARKERS OR TABS INSIDE THE GLUE POT (BETWEEN 2 AND 3 CENTIMETERS DEEP).

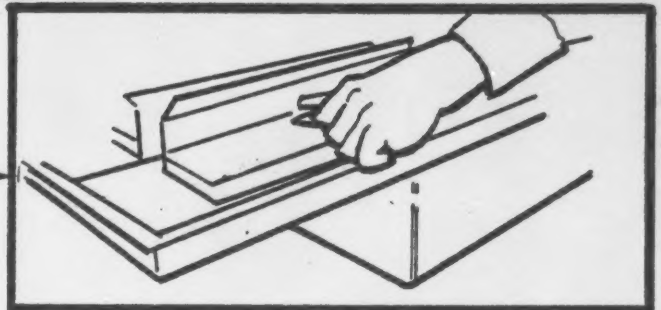


WORD GUIDE

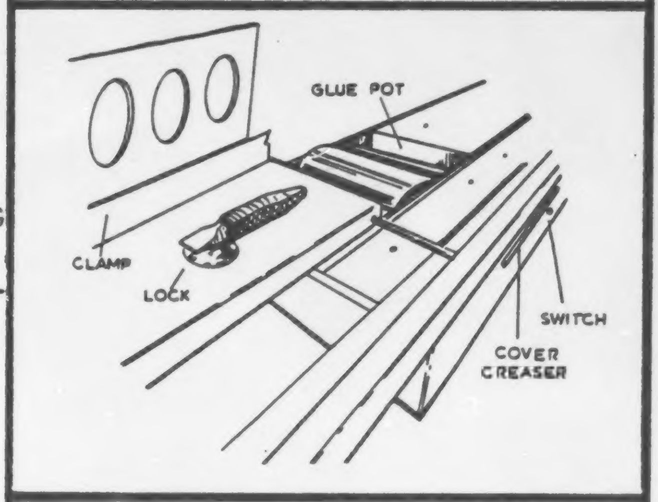
CARRIER - CARRIES THE PAPER OVER THE GLUE.

JOB STEPS

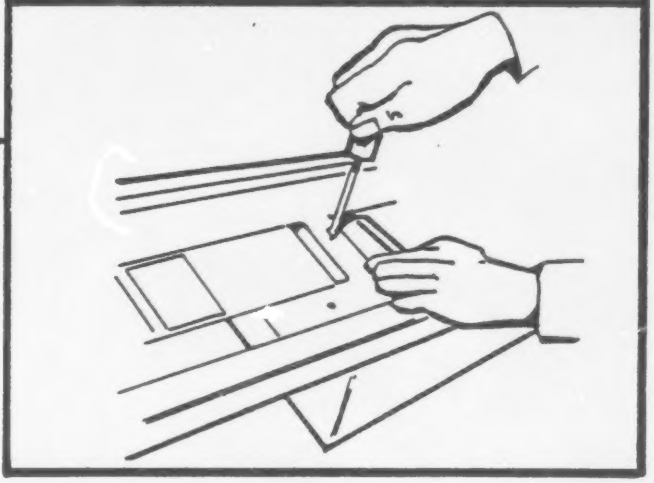
5. BY HAND, PULL CARRIER TO THE RIGHT HAND STARTING POSITION



6. CHECK TO SEE ROLLER IS TURNING FREELY, WITH A UNIFORM COATING OF GLUE ON IT.



7. CHECK THE SCRAPER FOR PROPER ADJUSTMENT; A THIN COATING FOR SMALL BOOKS (1/2 CENTIMETER THICK) AND A HEAVY COATING FOR THICK BOOKS (3 CENTIMETERS THICK). THE SCRAPER CAN BE MOVED BY LOOSENING THE 2 PHILLIPS-HEAD SCREWS BEHIND IT AND SLIDING THE SCRAPER.

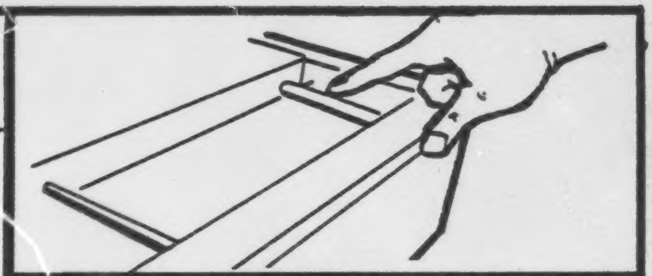


CAUTION: THE UNIT IS HOT, 150° C.

8. OPEN HANDLE ON CARRIER AND PLACE JOGGED PILE OF PAPER ON LEFT EDGE, CLOSE CARRIER.

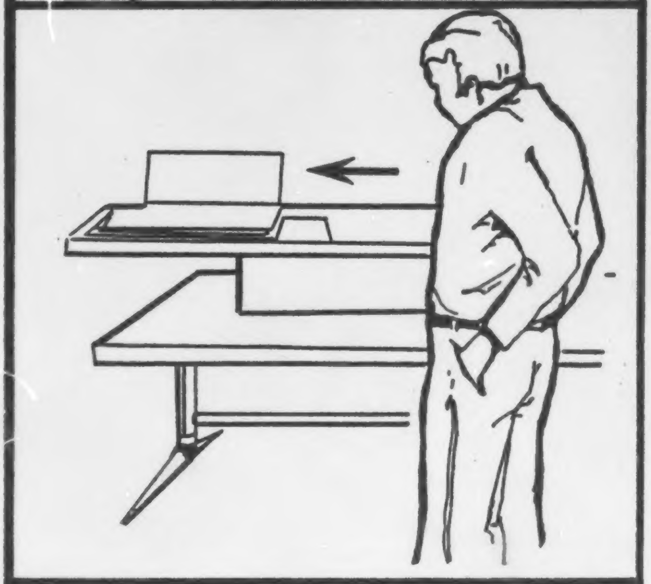
JOB STEPS

9. BE SURE PILE OF PAPER IS JOGGED SQUARE AND START TO PUSH CARRIER 1 CENTIMETER TOWARD ROLLER.



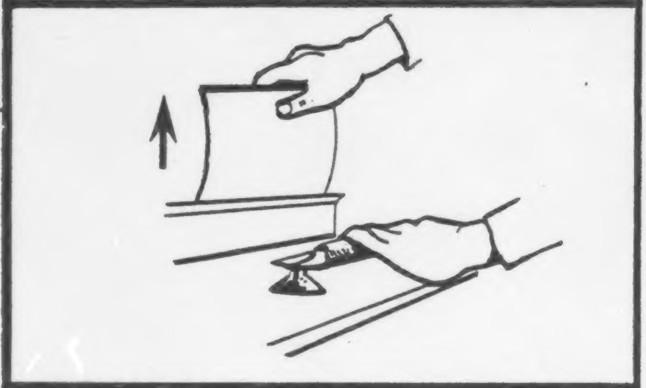
10. WHEN CARRIER LOCKS INTO CHAIN, LET GO AND THE MACHINE WILL AUTOMATICALLY FINISH THE JOB.

11. LET THE BIND COOL FOR 30 SECONDS, DON'T TOUCH IT BECAUSE IT IS STILL HOT.



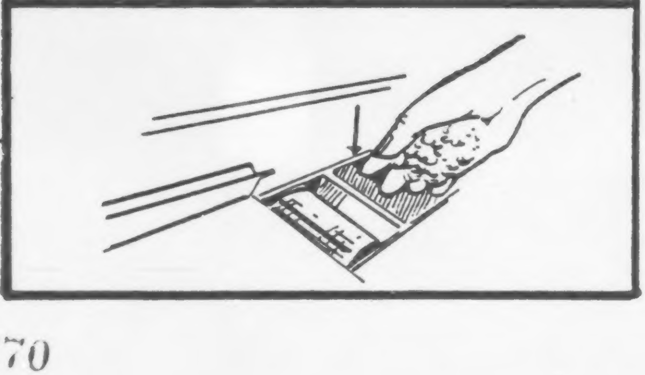
12. REMOVE THE BOUND BOOK. CHECK TO SEE IF GLUE COVERED THE WHOLE EDGE AND THAT IT IS NEAT BUT DON'T OPEN THE BOOK FOR AT LEAST 5 MINUTES (THE PLASTIC GLUE COOLS FROM THE OUTSIDE FIRST AND IF OPENED, PAGES MAY FALL OUT).

13. HOLD THE PILE BY ONE SHEET AND THE PILE SHOULD HOLD TOGETHER. IF IT DOES NOT YOU MUST DO THE BIND OVER.



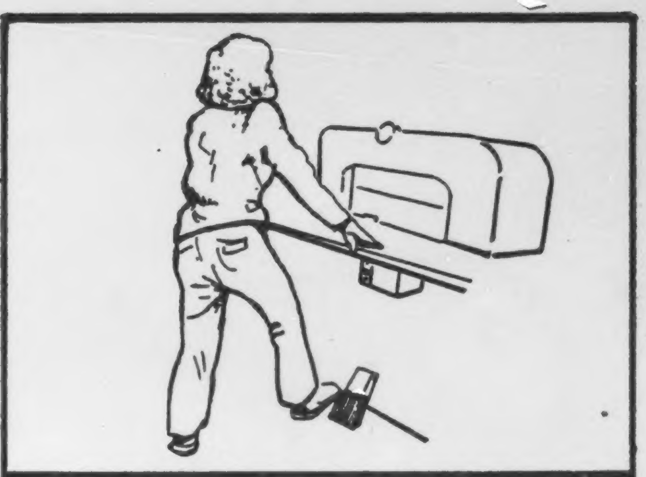
14. HAVE THE INSTRUCTOR CHECK YOUR BIND.

15. TO REFILL THE GLUE POT, CAREFULLY POUR IN A SMALL HANDFUL OF THE SQUARE PLASTIC CHIPS INTO THE GLUE POT. ALWAYS CHECK THE POT LEVEL (STEP 4) WITH THE UNIT RUNNING.



JOB STEPS

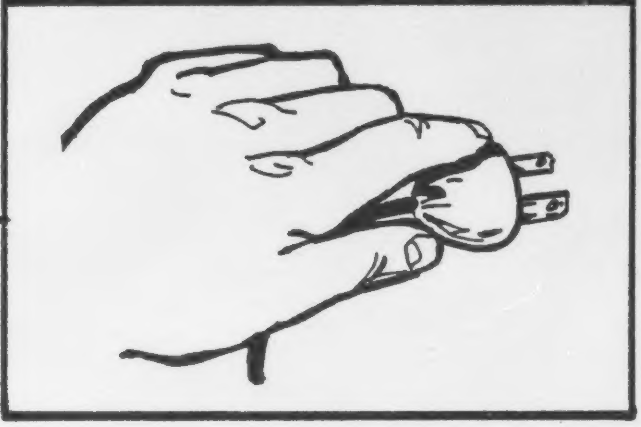
16. IF YOU CAN OPERATE THE HAND PAPER CUTTER, TRIM OFF THE BIND OR HAVE SOMEONE DO IT FOR YOU.



17. REPEAT THE BIND UNTIL YOU FEEL YOU CAN DO A JOB ORDER.

18. ASK IF THERE ARE ANY PERFECT BINDING JOBS.

19. UNPLUG THE MACHINE AND LET IT COOL BEFORE PUTTING AWAY. CLEAN UP YOUR AREA.



graphics

unit: FINISHING AND BINDERY

capital area career center

module: 1401 14 008
1401 14 008 3

date: 10/77

level: I

skill title: GATHERING: BY HAND AND BY SEMI-AUTOMATIC COLLATOR

developed & written by: GLEN PETTIT

visuals by: DANA MARVIN

WORD GUIDE

COLLATE - PUTTING SHEETS OF PAPER TOGETHER IN CERTAIN ORDER

SEQUENCE - PUT IN ORDER

SEMI-AUTOMATIC - SOMETHING DONE 1/2 BY A PERSON, 1/2 BY A MACHINE

BIN OR TRAY - ON COLLATOR, PAPER FOR EACH PAGE SITS ON BIN OR TRAY WHERE THEY ARE SHOVED OUT, ONE AT A TIME

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN;

HOW TO:

1. COLLATE AND GATHER BY HAND AND WITH A SEMI-AUTOMATIC COLLATOR.
2. SEQUENCE PAGES AND ORGANIZE FOR BOOKS AND LARGE AND SMALL JOBS.

IN ORDER TO DO THIS YOU WILL NEED:

JOBS TO COLLATE
PRACTICE (SCRAP) PAPER
A SEMI-AUTOMATIC COLLATOR
SLIDE/TAPE #1401 14 008

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN SEQUENCE, COLLATE AND GATHER EIGHT SHEETS BY HAND WITH 100% ACCURACY.
2. YOU CAN SET-UP AN 8 BIN SEMI-AUTOMATIC COLLATOR FOR A GIVEN JOB, INSERT PAGES IN THE PROPER SEQUENCE AND PROPERLY COLLATE THE ENTIRE JOB WITHOUT LOSS, BLANKS OR DOUBLES.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

AS A BEGINNING EMPLOYEE IN ANY JOB, YOU WILL OFTEN BE EXPECTED TO GATHER AND COLLATE MATERIALS. AT A HIGHER LEVEL, YOU WILL BE RESPONSIBLE FOR SUPERVISING OTHERS WHO WILL COLLATE. LARGE OFFICES AND ALL SMALL PRINT SHOPS HAVE COLLATORS WHICH YOU SHOULD KNOW HOW TO OPERATE.

WORD GUIDE

ALTERNATING - DOING ONE THEN ANOTHER; CHANGING FROM ONE THING TO ANOTHER AND THEN BACK AGAIN

JOB STEPS

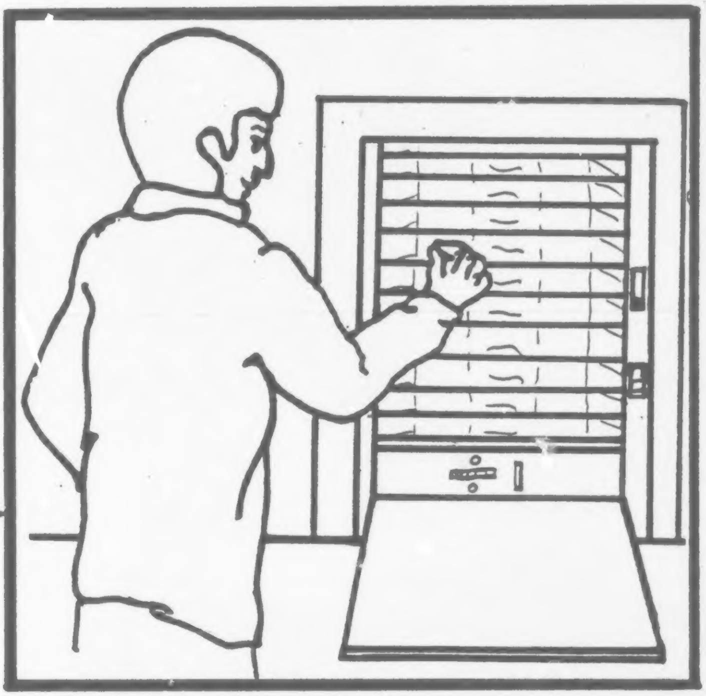
1. TAKE ALL MATERIALS AND EQUIPMENT TO YOUR WORK AREA.

2. WATCH AND LISTEN TO THE SLIDE/TAPE FOR "GATHERING: BY HAND AND BY SEMI-AUTOMATIC COLLATOR" (1401 14 008)

3. SET UP THE SEMI-AUTOMATIC COLLATOR ON A COUNTER OR TABLE. YOU WILL NEED AT LEAST A SQUARE METER OF WORK SPACE.

4. GET A 5 CM. THICK (500 SHEETS) PILE OF 8 1/2 X 11" (20# WHITE BOND) SCRAP PAPER FROM THE SCRAP PAPER BOX.

5. SET UP THE COLLATOR TO RECEIVE THIS 8 1/2 X 11" PAPER AND PLACE ABOUT ONE CENTIMETER IN EACH OF FIVE TRAYS (AS SHOWN IN THE SLIDE/TAPE). BE SURE THE FEED ROLLER ARMS ARE FORWARD AND THE SKIDS ARE ON IN THE EMPTY TRAYS.



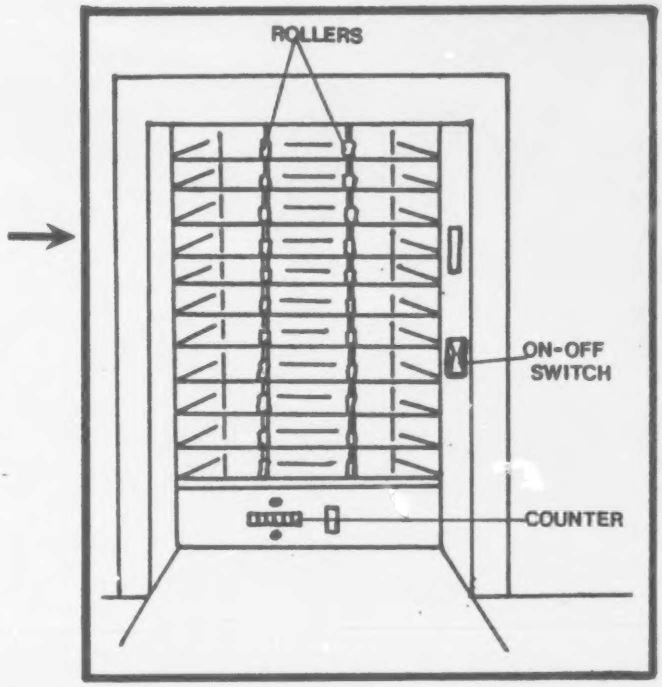
6. COLLATE THESE FIVE SHEETS: RUN ONE SET TO CHECK OPERATION; THEN COLLATE AT LEAST SEVERAL DOZEN, ALTERNATING THE SETS IN THE DELIVERY.

WORD GUIDE

JOG - JIGGLE UNTIL ALL EDGES ARE EVEN; ALL PAPERS LINED UP EVENLY WITH EACH OTHER

PERFORMANCE - HOW YOU DO SOMETHING

7. WHEN FINISHED PRACTICING, ASK YOUR INSTRUCTOR/MANAGER IF THERE ARE ANY JOBS FOR COLLATING. SPEND ABOUT 1/2 HOUR DOING SEVERAL PRODUCTION JOBS TO GAIN EXPERIENCE ON THE SEMI-AUTOMATIC COLLATOR.

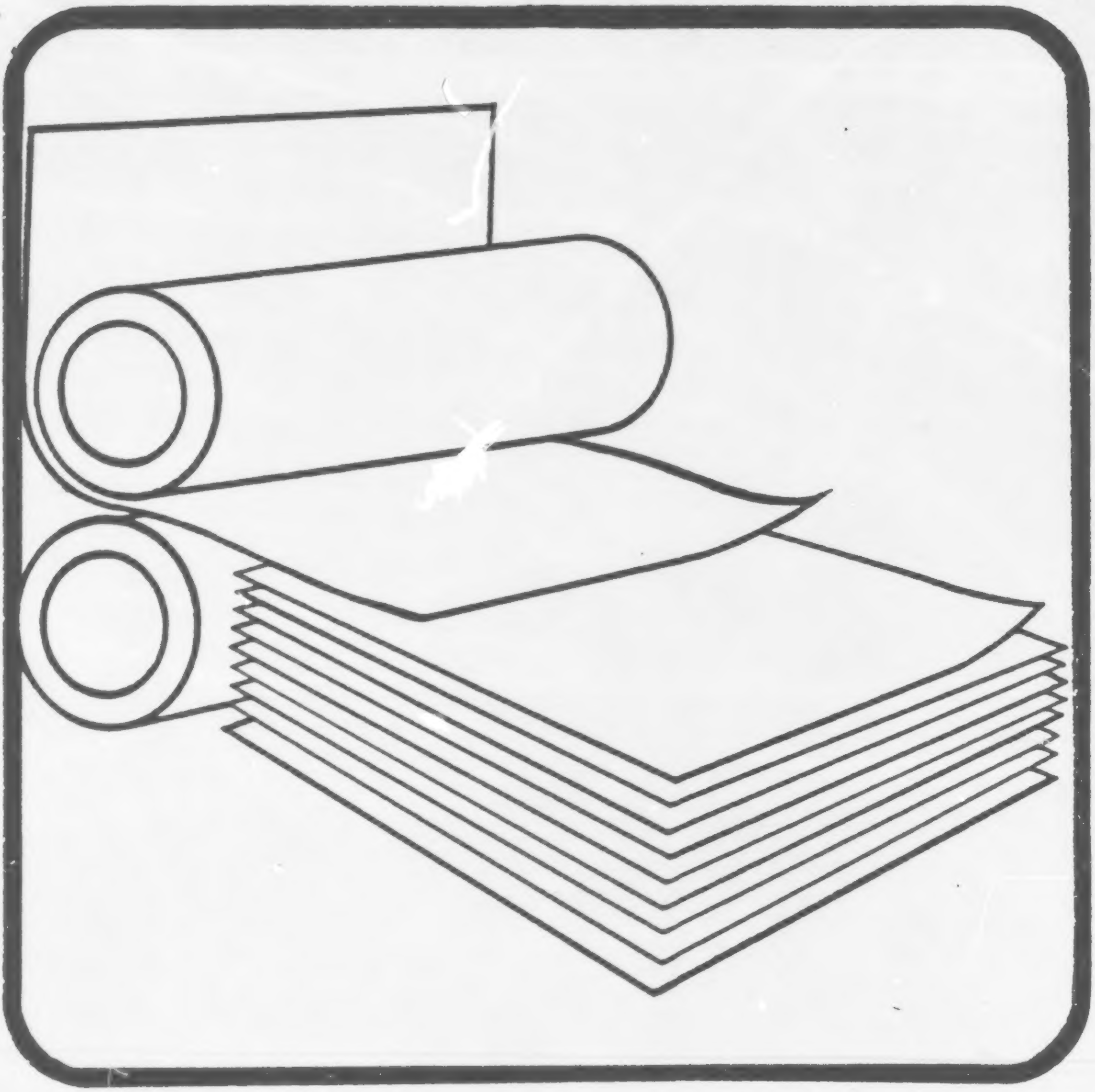


8. REMOVE SEVERAL TRAYS FROM THE COLLATOR AND AT LEAST ONE FEED ROLLER ARM.

9. REPLACE THESE (AS SHOWN IN THE PRESENTATION) AND PLACE SCRAP PAPER IN THE COLLATOR. THEN, COLLATE TO BE SURE YOU REPLACED EVERYTHING PROPERLY.

10. WHEN FINISHED, JOG AND RETURN YOUR SCRAP PAPER TO ITS BOX. SECURE YOUR AREA AND RETURN THE COLLATOR.

11. WHEN YOU ARE SATISFIED WITH YOUR PERFORMANCE, REQUEST CREDIT FOR THIS MOD. YOU MAY BE ASKED TO DO A RUSH PRODUCTION JOB ON THE SEMI-AUTOMATIC COLLATOR.



graphics

unit: FINISHING

capital area career center

1401 14 009
module: 1401 14 009 3 **date:** APRIL 1977 **level:** III

skill title: GATHERING: AUTOMATIC COLLATOR - STITCHER

developed & written by: DWIGHT SMITH AND GLEN PETTIT

visuals by: CHUCK KNOCK

WORD GUIDE

COLLATE - TO GATHER IN THE RIGHT ORDER, TO PUT TOGETHER.

STITCHER - A MACHINE THAT STAPLES PAGES TOGETHER.

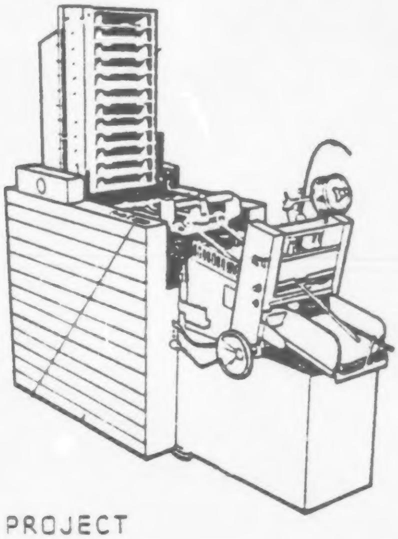
PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO SET UP AND RUN THE AUTOMATIC COLLATOR-STITCHER.
2. HOW TO COLLATE AND COLLATE-STITCH.

IN ORDER TO DO THIS YOU WILL NEED:

1. A PITNEY-BOWES #220 GATHERMATIC WITH STITCHER ATTACHMENT.



2. SCRAP PAPER
3. A COLLATING PROJECT

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU'VE KEPT ALL PAGES IN ORDER.
2. YOU'VE KEPT ALL PAGES FLAT AND STRAIGHT.
3. YOU'VE USED THE SAME STITCHING THROUGH THE WHOLE JOB.
4. YOU'VE ADJUSTED THE MACHINE SO IT DETECTS ALL MISSED OR DOUBLE PAGES.
5. YOU'VE ADJUSTED THE MACHINE SO IT COUNTS ALL THE SETS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

MANY MEDIUM-SIZE PRINT SHOPS HAVE AUTOMATIC COLLATORS BECAUSE THESE MACHINES CAN WORK AS FAST AS 4 OR 5 PEOPLE. YOU SHOULD LEARN HOW TO RUN A COLLATOR BECAUSE YOU MIGHT NEED TO RUN ONE WHEN YOU ARE ON THE JOB. IT IS MUCH EASIER TO RUN A COLLATOR THAN TO GATHER THE SETS BY HAND.

A. A COLLATOR PUTS PAGES TOGETHER IN ORDER. A COLLATOR-STITCHER PUTS THE PAGES TOGETHER AND STAPLES THE CORNERS TOGETHER.

B. THESE MACHINES CAN STOP THEMSELVES IF THEY MISS OR DOUBLE ANY PAGES.

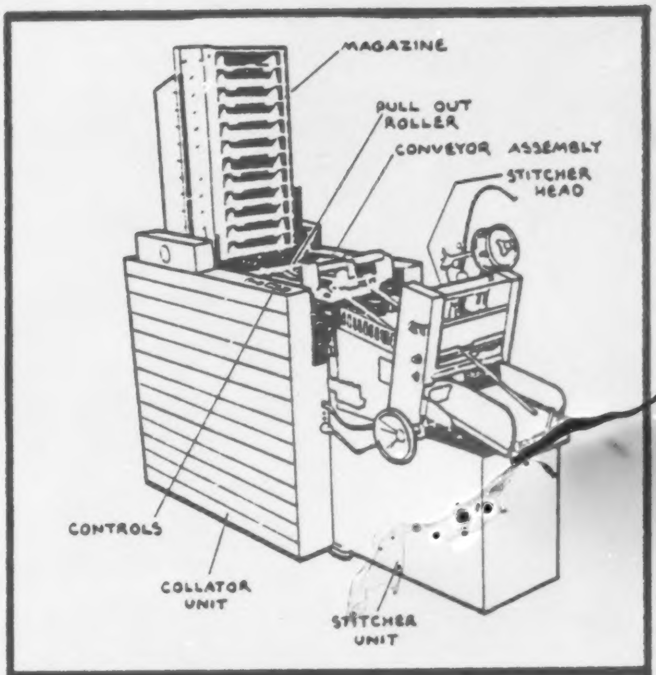
C. SOME COLLATORS ARE ATTACHED TO THE END OF A PRESS. THEY GATHER THE PAGES AS SOON AS THE PAGES ARE PRINTED. COLLATORS COME IN MANY SIZES AND SHAPES AND THE NUMBER OF PAGES THEY CAN GATHER, CHANGES.

JOB STEPS

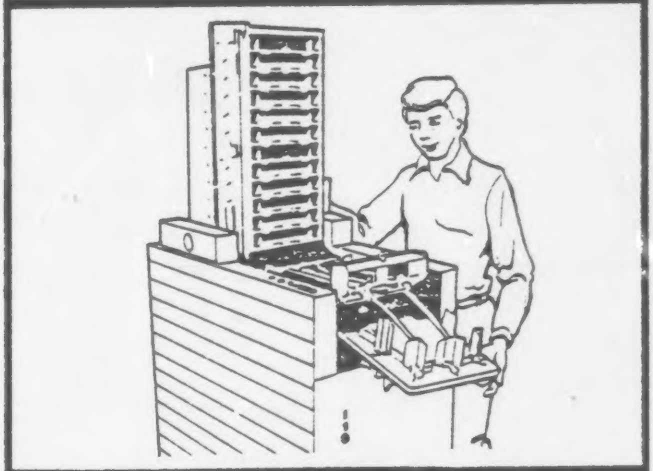
PART ONE: THE COLLATOR

1. GO OVER TO THE COLLATOR-STITCHER, LOOK AT IT CAREFULLY AND FIND THESE PARTS.

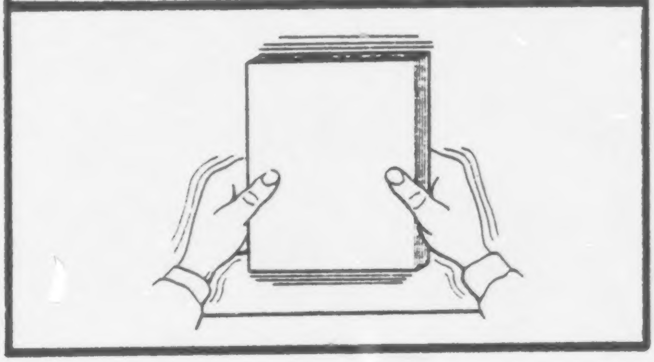
A - MAGAZINE
B - PULL OUT ROLLER
C - CONVEYER ASSEMBLY
D - CONTROLS
E - STITCHER HEAD
F - COLLATOR UNIT
G - STITCHER UNIT


MAGAZINE
PULL OUT ROLLER
CONVEYOR ASSEMBLY
STITCHER HEAD
CONTROLS
COLLATOR UNIT
STITCHER UNIT

2. ASK YOUR INSTRUCTOR TO CHECK THE COLLATOR-STITCHER WITH YOU. (FOR THE FIRST PART OF THIS MOD, YOU WILL RUN THE COLLATOR WITH A TRAY INSTEAD OF THE STITCHER UNIT ON THE DELIVERY END OF THE COLLATOR.)

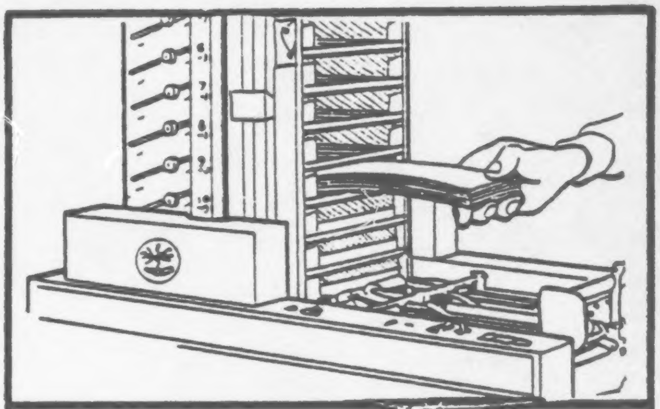


3. GET ABOUT 500 SHEETS OF 8½" X 11" GOOD, USED STOCK. FAN AND JOG THE PAPER.



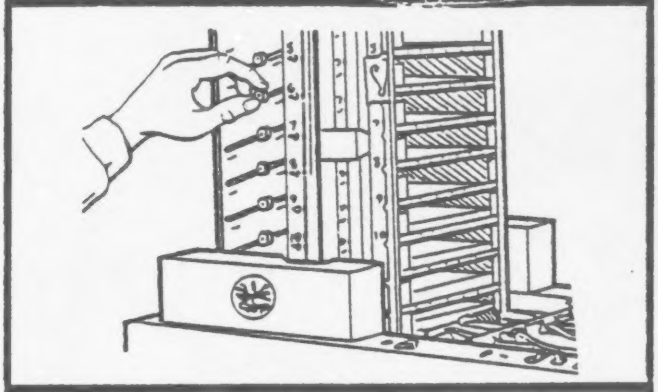
JOB STEPS

4. LOAD ABOUT 2 CM OF STOCK INTO EACH OF THE 4 BOTTOM BINS IN THE MAGAZINE.

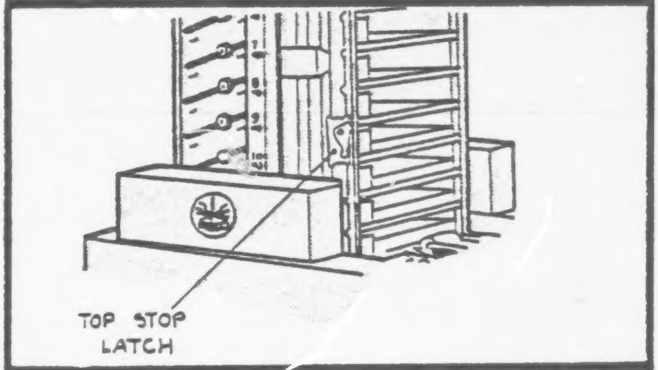


5. ADJUST THE 2 SIDE GUIDES AGAINST THE PAPER SO THAT THE PAPER IS CENTERED IN THE BIN. SET THE BACK PAPER-STOP SO THAT THE PAPER IS EVEN WITH THE FRONT OF THE BIN.

NOTE: REPEAT THIS STEP FOR EACH OF THE 4 BINS YOU ARE USING.

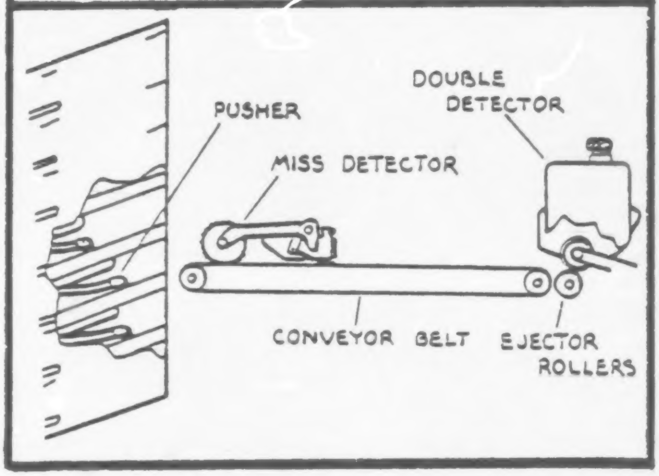


6. SET THE TOP STOP-LATCH EVEN WITH THE TOP BIN YOU ARE USING. (BIN 4)



7. STUDY THE DRAWING SHOWN HERE. FIND THE SAME PARTS ON THE MACHINE (AS IN JOB STEP 2). KNOW OR FIND OUT HOW EACH PART WORKS:

A - PUSHER
B - MISS DETECTOR
C - CONVEYOR BELT
D - DOUBLE DETECTOR
E - EJECTOR ROLLERS



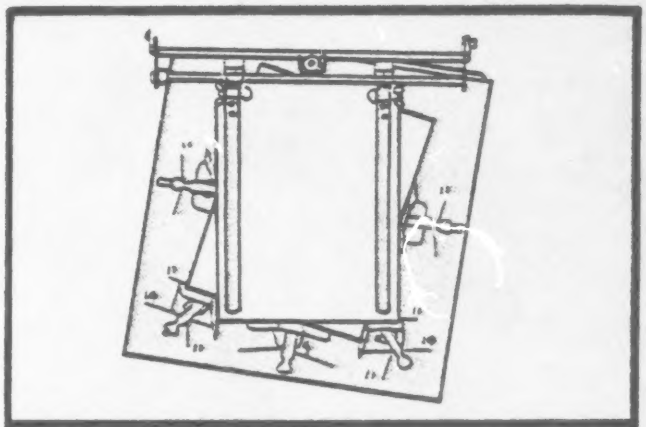
NOTE:

1. THE PUSHER SHOVES 1 SHEET FORWARD ABOUT 10 CM.
2. THE PULL OUT ROLLER HOLDS THE SHEET ONTO THE CONVEYOR BELT.
3. THE MISS DETECTOR STOPS THE MACHINE IF IT MISSES A SHEET.
4. THE DOUBLE DETECTOR FEELS EACH SHEET AND STOPS THE MACHINE IF 2 SHEETS ARE FED OUT INSTEAD OF ONE.
5. THE EJECTOR SENDS THE SHEETS OUT INTO THE RECEIVING TRAY.

JOB STEPS

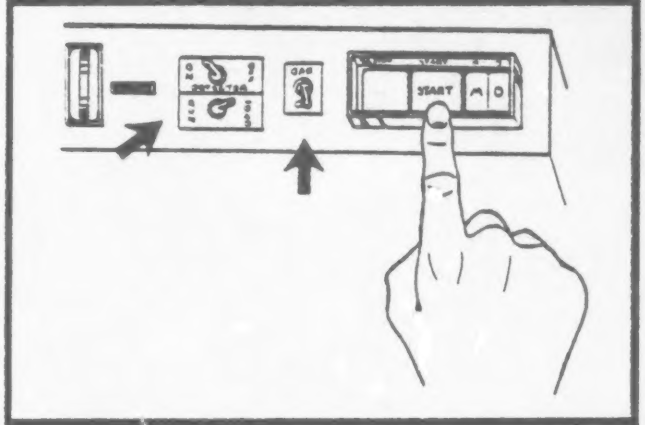
8. WHEN A SET IS DONE, IT IS SENT TO THE RECEIVING TRAY. THE TRAY CRISS-CROSSES THE SETS SO YOU CAN TELL THEM APART.

NOTE: THE LONG METAL DEFLECTORS GUIDE THE PAPER INTO NEAT PILES. THEY STAY 1 CM UP FROM IT.

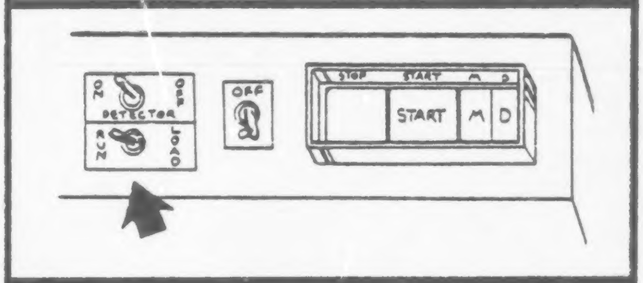


9. GET READY TO RUN THE COLLATOR NOW. SET THE CONTROL PANEL TO THE LOAD POSITION, DETECTORS ON. THEN, TURN THE POWER ON. PUSH THE START BUTTON AND HOLD IT FOR A SECOND.

10. MAKE SURE ONE SHEET FROM EACH OF THE 4 BINS HAS BEEN PUSHED OUT. THE SHEETS SHOULD COME DOWN THE CONVEYOR BELT.

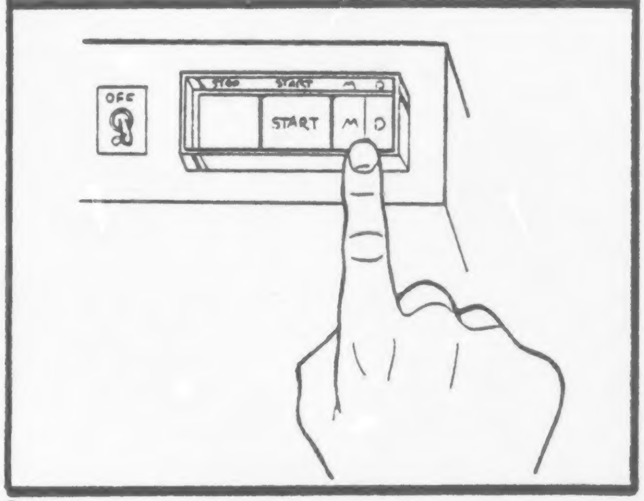


11. IF THE MACHINE IS WORKING RIGHT, TURN THE SWITCH TO RUN. WATCH COLLATOR WORK. IF IT STOPS, CHECK CONTROL PANEL. IF "MISS" OR "DOUBLE" LIGHT GOES ON, YOU MUST FIX MACHINE. IF YOU CAN'T, ASK YOUR INSTRUCTOR TO HELP.



12. IF THE MISS OR DOUBLE LIGHT IS ON, PRESS THE "M" OR "D" BUTTON TO RESET THE MACHINE.

13. IF THE PAPER JAMS UP IN THE RECEIVING TRAY, STOP THE MACHINE. FIX THE JAM AND RE-START THE MACHINE.

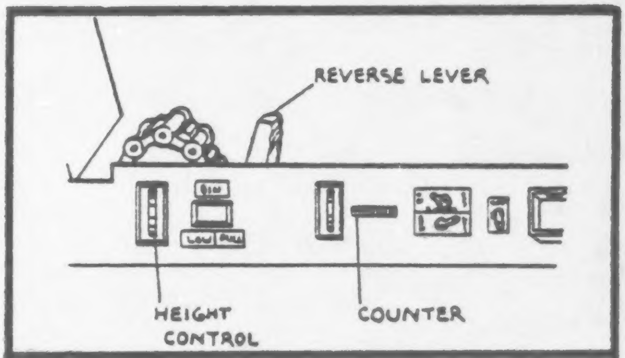


JOB STEPS

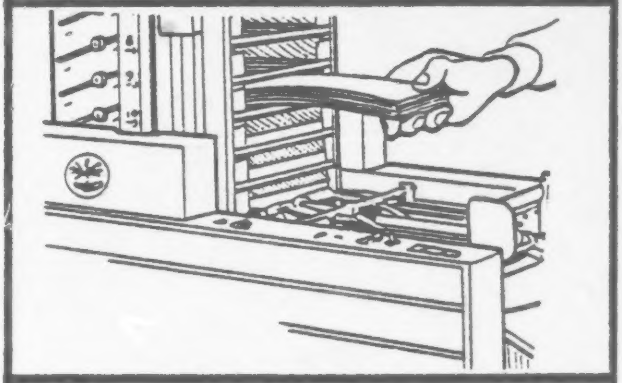
14. NOW SET UP THE MACHINE FOR A RUN:

A - FIND THE COUNTER, THE HEIGHT CONTROL, AND THE REVERSE LEVER.

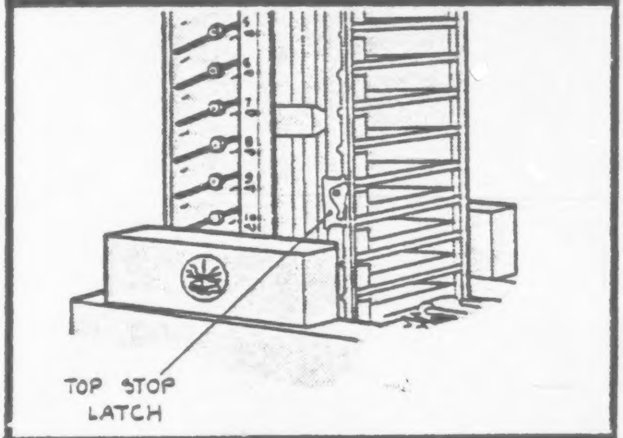
B - THEN, TURN THE COUNTER-WHEEL TOWARD YOU, SETTING IT TO ZERO.



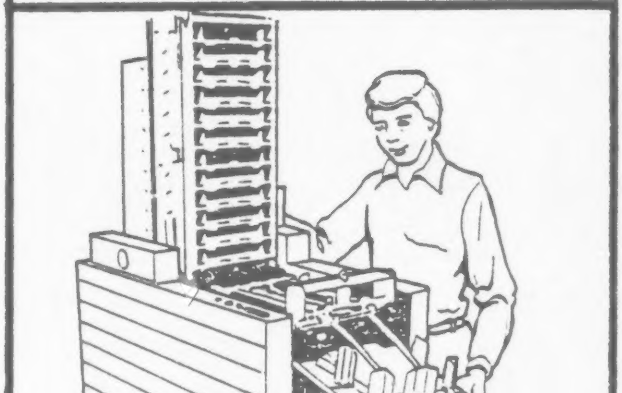
15. SET THE COLLATOR CONTROL FOR 10 PAGES. THEN, LOAD ABOUT 2 CM OF 8½" X 11" STOCK INTO EACH BIN.



16. SET THE STOP-LEVER SO IT IS LEVEL WITH THE TOP BIN YOU FILLED. THEN, CENTER THE HEIGHT CONTROL ON THE RED LINE.



17. COLLATE 150 SETS OF 10 PAGES EACH. TAKE THE FINISHED SETS OUT OF THE RECEIVING TRAY WHEN THE PILE GETS 4 OR 5 CM HIGH.



18. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK. BE READY TO COLLATE MORE SETS, IF NECESSARY. YOUR INSTRUCTOR MIGHT EVEN ASK YOU QUESTIONS ABOUT THE COLLATOR.

JOB STEPS

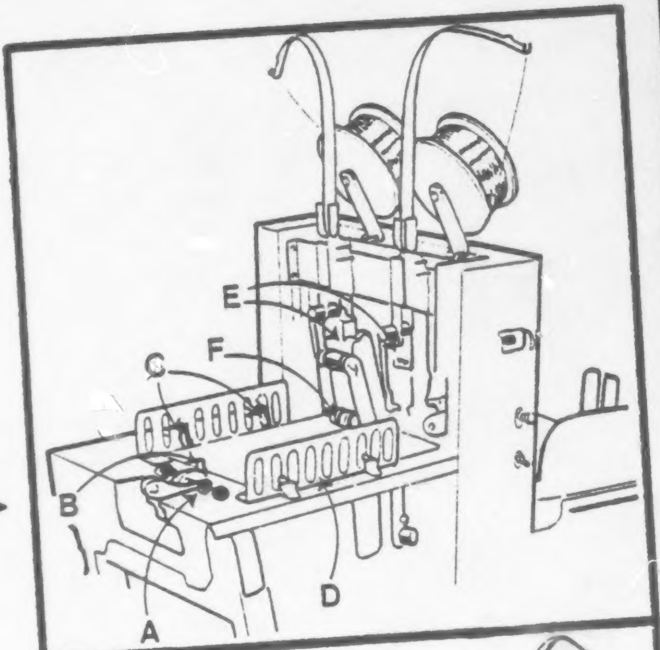
PART TWO: THE STITCHER

1. ASK YOUR INSTRUCTOR TO HELP YOU BRING THE STITCHER TO THE COLLATOR AND HOOK IT UP.

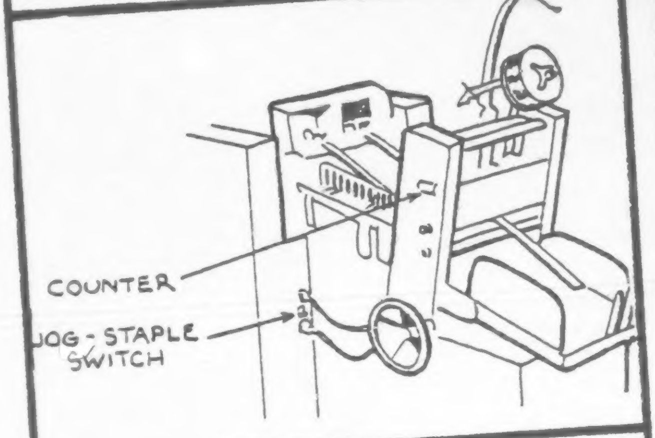
2. TURN THE COLLATOR POWER ON. THEN TURN THE STITCHER POWER ON.

3. STUDY THE STITCHER AND THE JOGGER SYSTEM. FIND THESE PARTS:

A - KICKER WHEELS
B - BACK JOGGER
C - SIDE JOGGERS
D - SIDE GUIDE
E - STITCHER HEAD
F - PULL OUT ROLLER

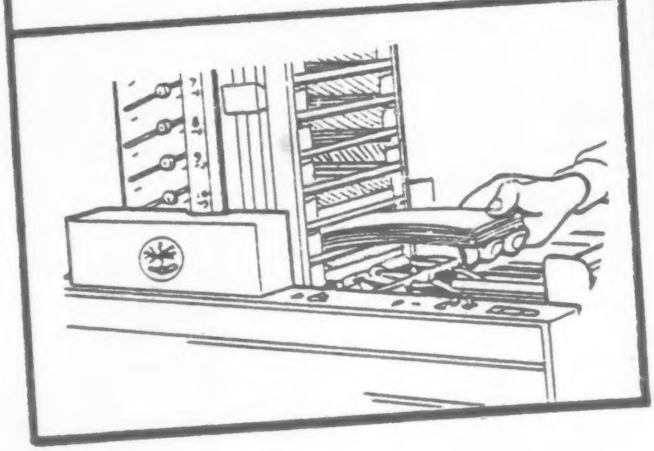


4. FIND THE JOG-STAPLE SWITCH ON THE COLLATOR. SET THE JOG-STAPLE SWITCH TO JOB. THEN, SET THE COUNTER TO ZERO (AS YOU DID ON COLLATOR).



5. SET THE SIDES OF THE DELIVERY TRAY FOR THE SIZE STOCK YOU ARE USING.

THEN, LOAD A 2 CM PILE OF 8½" X 11" STOCK INTO THE BOTTOM 2 BINS.



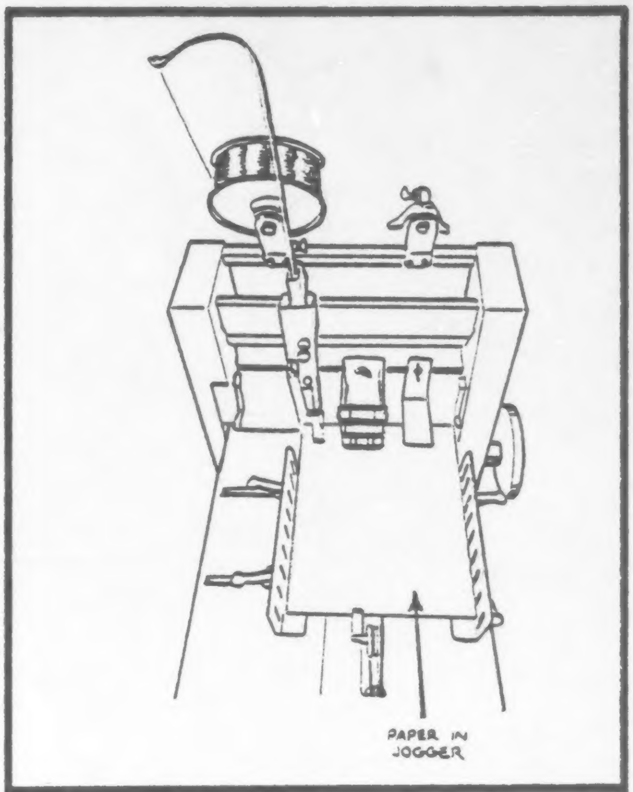
6. SET UP THE COLLATOR TO COLLATE 2 PAGE-SETS (LIKE YOU DID IN PART ONE OF THIS MOD). THEN, USING THE START AND STOP BUTTONS, "INCH" THE PAGES ONTO THE CONVEYER SYSTEM OF THE COLLATOR.

JOB STEPS

WORD GUIDE

INCH - TO MOVE SLOWLY

7. CONTINUE TO "INCH" UNTIL THE PAPER GOES INTO THE JOGGER SYSTEM OF THE STITCHER. WHEN THE 2ND SET OF PAGES COMES OUT OF THE MAGAZINE, THE STITCHER IS STARTED.



8. LOOK AT THE SET THAT THE STITCHER JUST STAPLED. THE PAGES SHOULD BE STRAIGHT. IF THE PAGES ARE NOT STRAIGHT, CHECK THE SIDE-GUIDES IN THE BINS.

9. COLLATE 200 TWO-PART SETS AND STITCH THEM. USE THE STAPLE SWITCH TO STAPLE THE LAST IN A RUN.

10. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK WHEN YOU ARE DONE. ASK YOUR INSTRUCTOR ABOUT THESE THINGS:

A - CHANGING WIRE
B - CRISS-CROSS STACKER
C - SPEED CONTROL
D - LUBRICATION POINTS
E - RETHREADING STITCHER

11. WHEN YOU ARE DONE WITH THIS MOD, CLEAN UP YOUR AREA. THROW AWAY ALL STAPLED SETS.

NOTE: DO NOT PUT THE SCRAP WITH STAPLES BACK INTO THE GOOD SCRAP BOX. THIS IS TO KEEP ANY STAPLES OUT OF THE OFFSET PRESSES.

YOU MADE IT. NOW YOU CAN RUN THE COLLATOR-STITCHER.

graphics

unit: FINISHING & BINDERY

capital area career center

module: 1401 14 010
1401 14 010 3 **date:** 10/77 **level:** I

skill title: CUTTING: TABLE MODEL, TRIUMPH HAND LEVER

developed & written by: GLEN PETTIT

visuals by: STEVE BRAMER

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO OPERATE AND ADJUST A TABLE MODEL PAPER CUTTER

IN ORDER TO DO THIS YOU WILL NEED:

1. A TRIUMPH HAND-LEVER PAPER CUTTER
2. A CUTTING EXERCISE AND PAPER STACK

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN OPERATE A TRIUMPH HAND-LEVER CUTTER.
2. YOU CAN ADJUST BLADE DEPTH TO MANUFACTURER'S SPECIFICATIONS AND SET BACKGAUGE.
3. YOU CAN CUT STACK TO GIVEN SPECIFICATIONS WITHIN 1 MM. ACCURACY.
4. YOU CAN DO THE GIVEN CUTTING EXERCISE IN LESS THAN 15 MINUTES AND TO SPECIFICATIONS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

MANY SMALL PRINT SHOPS AND IMPLANT FACITITIES WILL HAVE A SMALL HAND LEVER PAPER CUTTER. ALL LARGER AUTOMATIC CUTTERS OPERATE ON THE SAME BASIC PRINCIPLES YOU WILL LEARN HERE.

WORD GUIDE

CLAMP - USED TO HOLD THE LIFT DOWN TIGHT SO THE LIFT DOES NOT PULL OUT WHILE BEING CUT

BED - THE TABLE OR FLAT AREA INSIDE THE CUTTER WHERE THE PAPER IS PLACED (RESTED). A BED IS PERFECTLY FLAT, SMOOTH, VERY SOLID AND ACCURATE

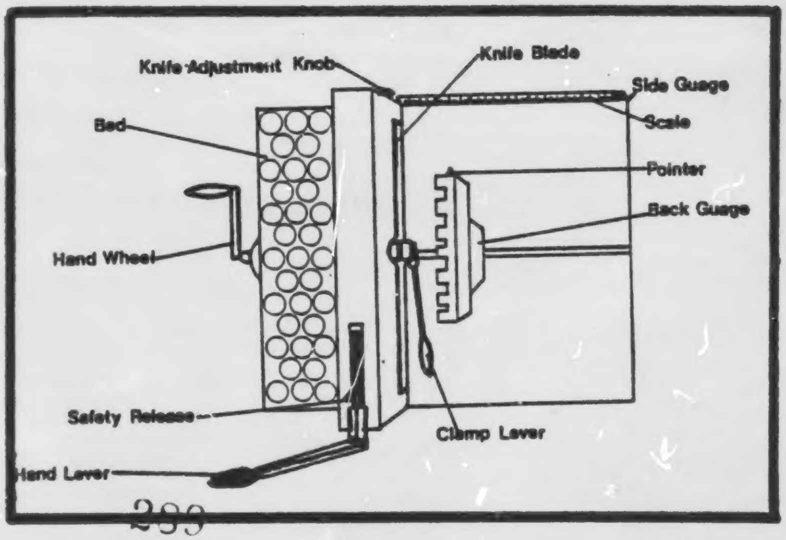
KNIFE BLADE - WHAT ACTUALLY CUTS THROUGH THE LIFT OF PAPER, IT IS RAZOR SHARP AND VERY HARD

SAFETY LATCH - THIS SAFETY DEVICE PREVENTS THE HAND LEVER AND BLADE FROM COMING DOWN ACCIDENTALLY WHILE YOU ARE PUTTING PAPER IN. YOU MUST USE BOTH HANDS TO LOWER THE KNIFE BLADE, SO YOU CAN'T CUT YOUR HAND. REMEMBER, ONLY ONE PERSON WORKS AND OPERATES THE CUTTER.

JOB STEPS

1. OBTAIN A 2 CM. THICK LIFT OF SCRAP PAPER (8 1/2 X 11" 20# WHITE) AND ALSO A SCRATCH PAD OF PAPER, ABOUT 1 CM. THICK.

2. EXAMINE THE TRIUMPH HAND LEVER CUTTER, LOCATE THE FOLLOWING 11 PARTS:

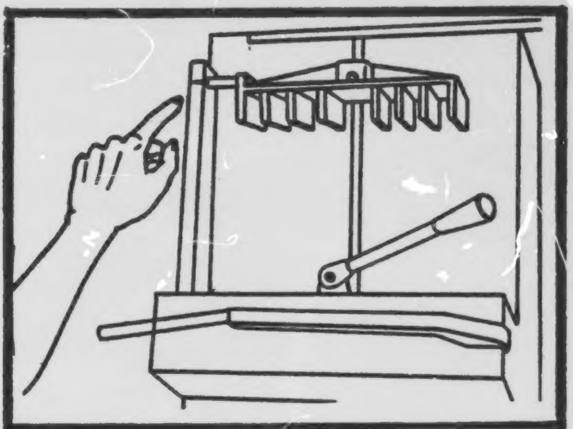

Knife Adjustment Knob
Knife Blade
Side Guage
Scale
Bed
Pointer
Back Guage
Hand Wheel
Safety Release
Clamp Lever
Hand Lever

WORD GUIDE

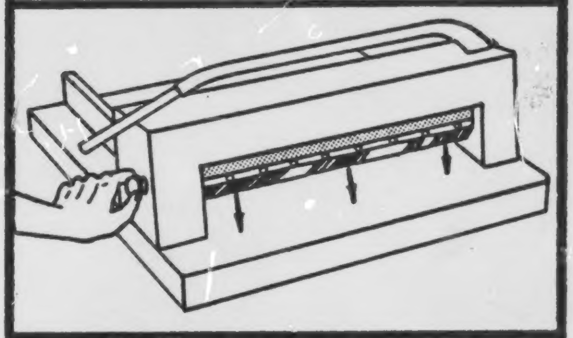
PERPENDICULAR - STRAIGHT ABOVE OR EXACTLY VERTICAL IS PERPENDICULAR. ALL RULERS AND MEASURING SCALES MUST BE READ WITH ONE EYE OPEN AND THAT EYE DIRECTLY ABOVE THE MEASUREMENT YOU'RE READING.

JOB STEPS

3. TURN THE HAND WHEEL AND SET THE BACKGAUGE FOR 20 CM, THEN 28 CM AND THEN 14 CM. EACH TIME CHECKING THE POINTER ON THE SCALE WITH ONE EYE OPEN AND EXACTLY PERPENDICULAR (ABOVE) THE POINTER.

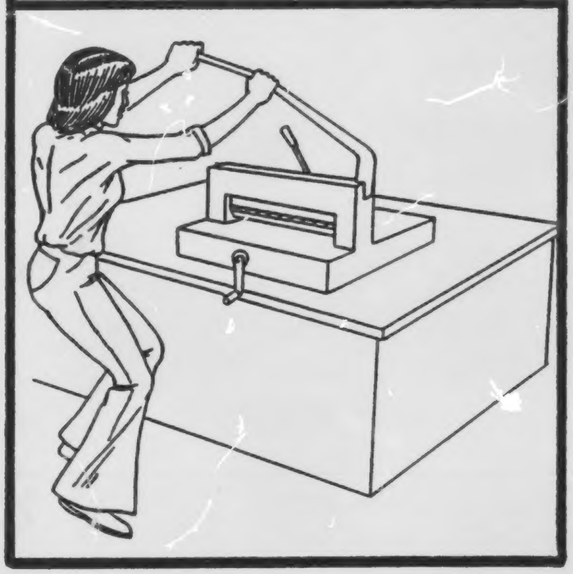


4. RELEASE THE SAFETY LATCH AND SLOWLY LOWER THE HAND LEVER, LOWERING THE KNIFE BLADE ALL THE WAY. TURN THE "KNIFE DEPTH ADJUSTMENT KNOB" IN SO THE BLADE IS RAISED SLIGHTLY; WATCH IT MOVE.



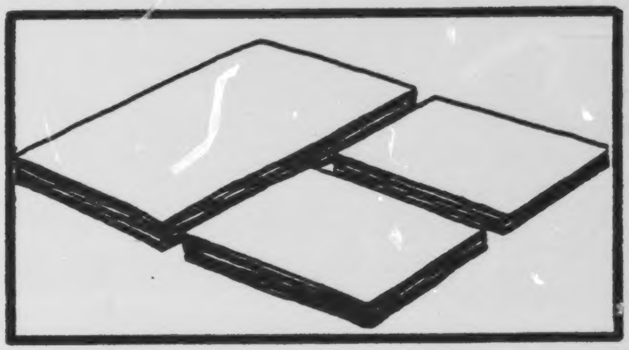
5. NOW SET THE KNIFE BLADE DEPTH SO IT IS JUST ABOVE THE RED CUTTING PLASTIC CUTTING STICK; 1/2 MM ABOVE IT. HERE AT THE CAREER CENTER WE WILL ALWAYS PLACE A PIECE OF CHIPBOARD UNDER THE STACK BEING CUT SO WE DO NOT DAMAGE THE CUTTING STICK. ALWAYS CHECK THE BLADE DEPTH FIRST, THE KNIFE BLADE SHOULD CUT INTO THE CHIPBOARD BUT NOT THROUGH IT.

6. SET THE CUTTER FOR 5 CM AND CUT THE SCRATCH PAD. . . MAKE SEVERAL MORE CUTS AT ANY SIZE INTO THIS SCRATCH PAD FOR PRACTICE. DON'T FORGET TO USE THE CLAMP.



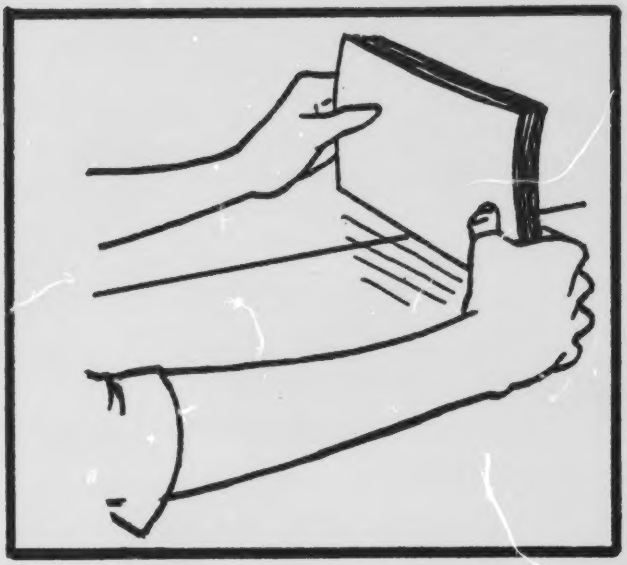
JOB STEPS

7. NOW THAT YOU ARE FAMILIAR WITH THE CUTTER, TAKE YOUR 8 1/2 X 11" SCRAP PAPER AND WITH A SOFT PENCIL OR MARKER, MARK ALL FOUR EDGES OF THE LIFT, THEN CUT IT IN HALF (5 1/2 X 8 1/2") AND THEN IN HALF AGAIN (4 1/4 X 5 1/2").



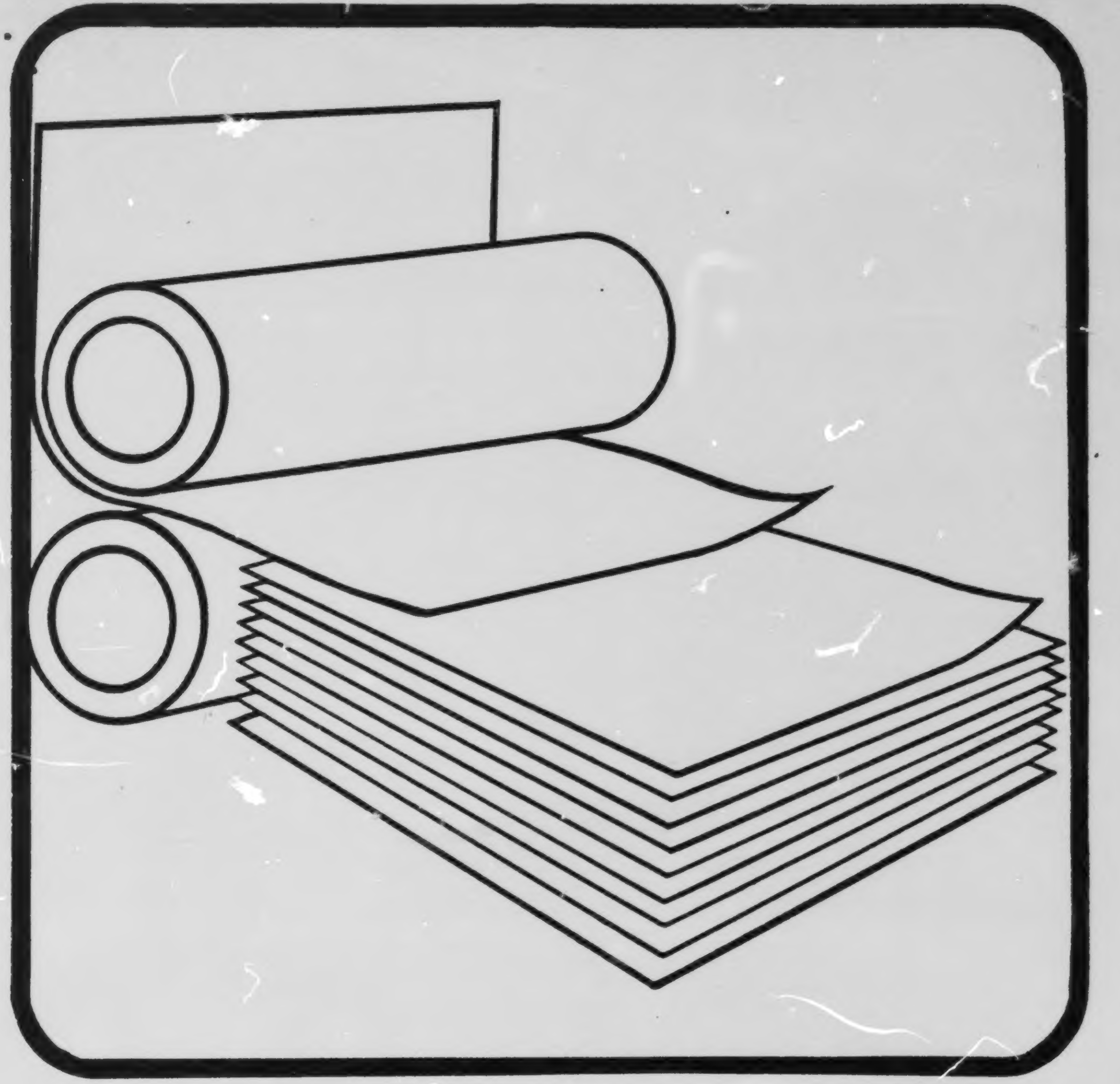
8. YOU HAVE FOUR LIFTS OF 4 1/4 X 5 1/2" PAPER, EACH WITH TWO CLEAN EDGES AND TWO DIRTY (MARKED) EDGES. TRIM THESE LIFTS DOWN TO 10 CM X 12 1/2 CM, TRIMMING THE OUTSIDE OR DIRTY EDGES OFF.

9. STACK ALL FOUR LIFTS IN ONE NEAT PILE. CHECK TO SEE IF ALL FOUR LIFTS ARE EXACTLY THE SAME SIZE AND CLEAN.



10. YOU MAY WANT TO REPEAT STEPS 8 AND 9 IF YOUR WORK WAS NOT PERFECT. WHEN FINISHED AND YOU ARE SATISFIED, YOU CAN OPERATE THE CUTTER; DISCARD ALL YOUR SCRAP PAPER, RETURN THE CHIPBOARD (DRAWER UNDER CUTTER) AND SECURE YOUR AREA.

11. LEAVE THE HAND LEVER IN THE LOWERED (DOWN) POSITION AND SUBMIT THIS MOD FOR CREDIT.



graphics

unit: FINISHING AND BINDERY

capital area career center

module: 1401 14 011
1401 14 011 3 date: NOVEMBER 1977 level:

skill title: CUTTING: BASIC OPERATION, CHALLENGE POWER CUTTER

developed & written by: JIM WOODWARD AND GLEN PETTIT

visuals by: BRUCE BENNETT

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO CUT PAPER TO SIZE BY USING A CHALLENGE POWER PAPER CUTTER.

AND IN ORDER TO DO THIS YOU WILL NEED:

PRACTICE PAPER

RULER

THE CHALLENGE POWER PAPER CUTTER AND JOB TO CUT TO SIZE.

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN TAKE A GIVEN JOB, SET UP THE CUTTER AND SAFELY CUT THE PAPER TO SIZE WITH 100% ACCURACY AND WITHOUT LOSS.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

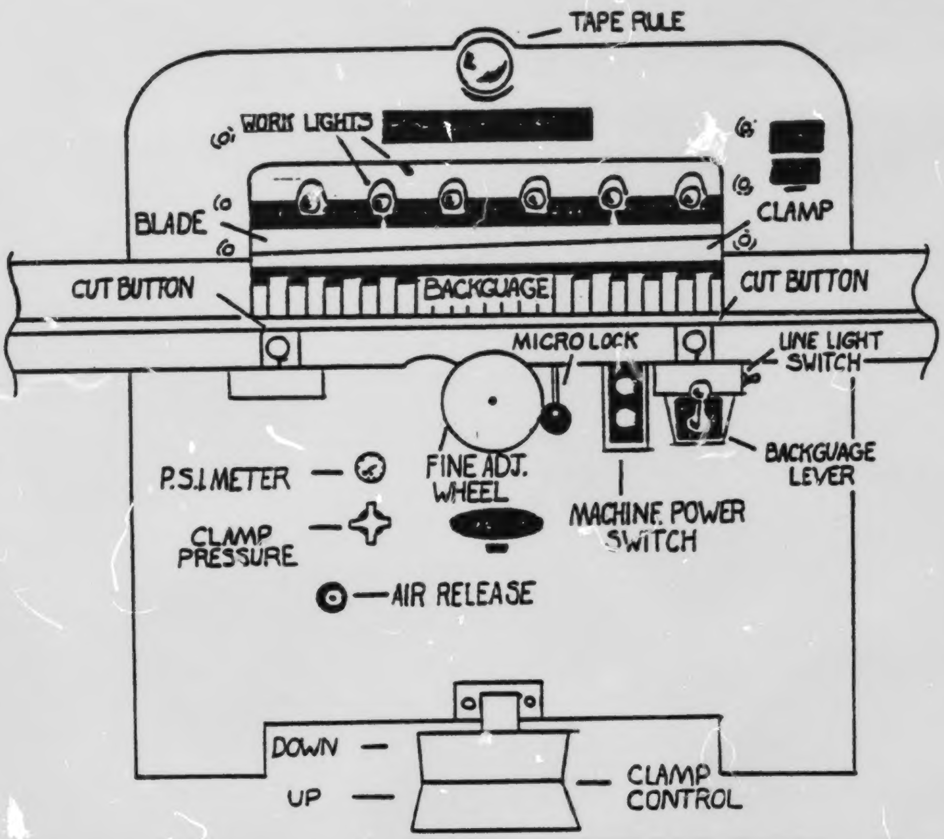
SUPERVISE - DIRECT; BE IN CHARGE OF

INFORMATION

AS A STUDENT AND PERHAPS AN EMPLOYEE IN A GRAPHIC ARTS SHOP, YOU SOMETIMES WILL BE REQUIRED TO CUT OR TRIM PAPER TO EXACT SIZE. YOU MAY ALSO BE REQUIRED TO SUPERVISE THE CUTTING OPERATIONS OF A SHOP OR CERTAIN JOB.

MOST LARGER SHOPS HAVE SOME TYPE OF POWER CUTTER. THE CUTTERS MAY HAVE POWER BLADES AND CLAMP OR ARE COMPUTERIZED (THEY AUTOMATICALLY RESET THEMSELVES TO A NEW STYLE AFTER EACH CUT). YOU NEED TO KNOW HOW TO SAFELY OPERATE THIS VERY IMPORTANT PIECE OF EQUIPMENT.

NOW STUDY THIS DIAGRAM AND LEARN THE DIFFERENT PARTS OF THE CHALLENGE POWER CUTTER.


TAPE RULE
WORK LIGHTS
BLADE
CLAMP
CUT BUTTON
BACKGUAGE
CUT BUTTON
MICRO LOCK
LINE LIGHT SWITCH
P.S.I. METER
FINE ADJ. WHEEL
BACKGUAGE LEVER
MACHINE POWER SWITCH
CLAMP PRESSURE
AIR RELEASE
DOWN
UP
CLAMP CONTROL

WORD GUIDE

DRY RUN - PRACTICE RUN

LINE LIGHT - A THIN BEAM OF LIGHT THAT SHOWS RIGHT WHERE THE BLADE WILL CUT THE PAPER.

FINE ADJUSTMENT - A KNOB THAT LETS YOU ADJUST THE BACK GAUGE AND TAPE RULER FOR A VERY ACCURATE CUT

JOB STEPS

1. GET A PILE OF ABOUT 100 SHEETS OF 8½" X 11" WHITE 20# SCRAP PAPER AND A RULER (A WOODEN RULER SHOULD BE USED AROUND PAPER CUTTERS TO SAVE THE BLADE IN CASE YOU SHOULD CUT INTO THE RULER).

2. READ THE REST OF JOB STEPS AND STUDY THE DRAWINGS BEFORE GOING ANY FARTHER.

3. FIND THE WALL ELECTRIC SWITCH AND CHECK TO SEE THAT IT IS ON.

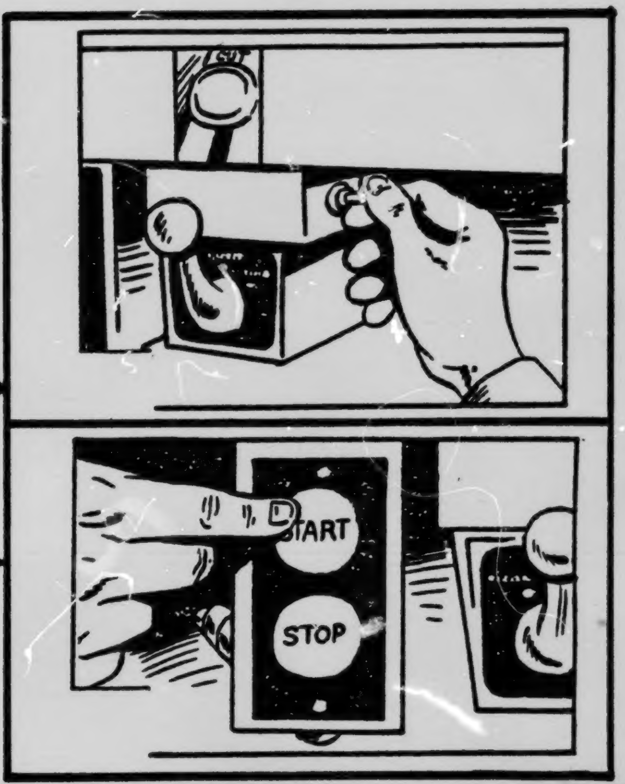
4. HAVE YOUR INSTRUCTOR FOLLOW YOU THROUGH A DRY RUN.

CAUTION: REMEMBER, THIS IS NOT A TOY, BUT A VERY POWERFUL AND FAST MACHINE. TREAT IT AS IF IT WERE A LOADED GUN.

5. TURN ON THE LIGHT SWITCH.

6. TURN ON THE LINE LIGHT SWITCH.

7. TURN ON THE MACHINE POWER SWITCH.

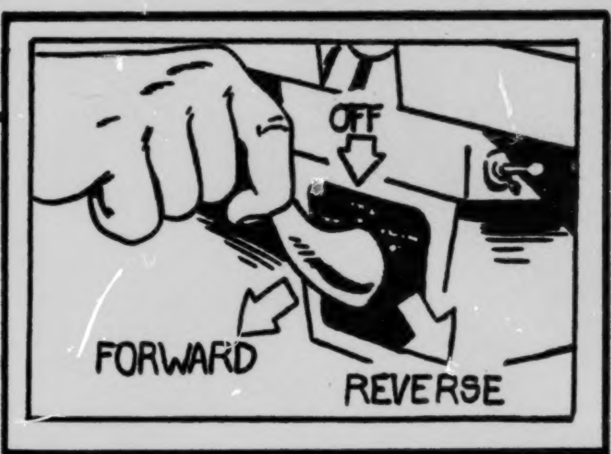


WORD GUIDE

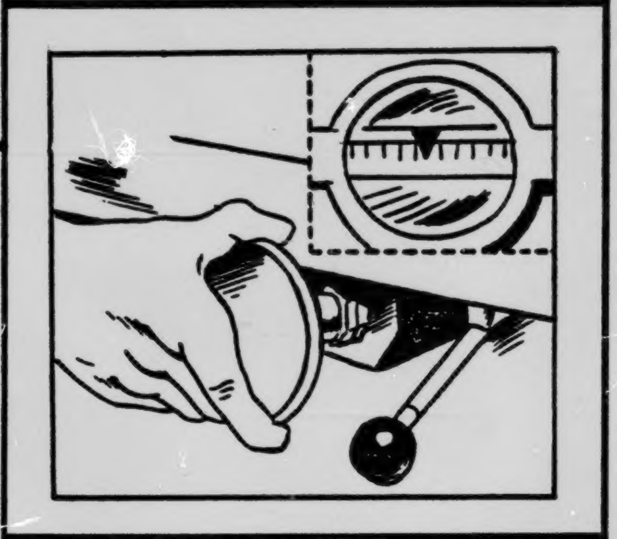
MICRO LOCK - A VERY SMALL ELECTRIC SWITCH THAT STOPS THE BACK GAUGE MOTOR FROM WORKING.

JOB STEPS

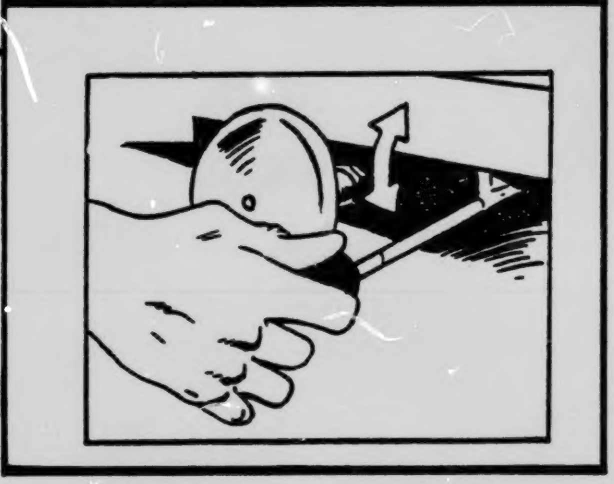
8. OPERATE THE BACKGAUGE BACK AND FORTH WITH THE BACKGAUGE SWITCH.



9. CHECK THE MOVEMENT OF THE TAPE RULER WITH THE FINE ADJUSTMENT KNOB.



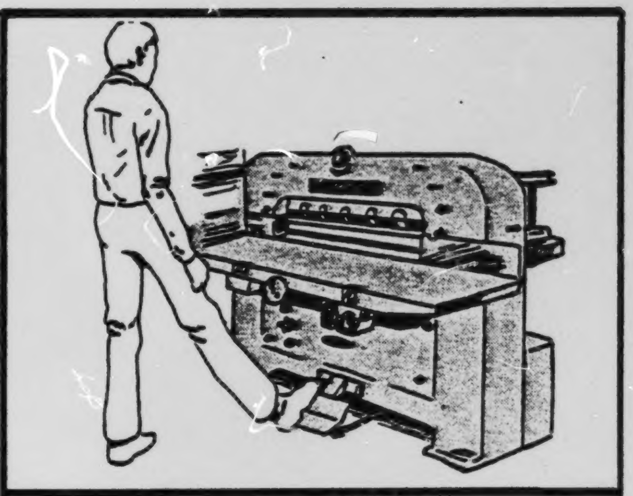
10. CHECK THE MICRO LOCK TO SEE THAT IT LOCKS. DO NOT USE FORCE. IT IS ONLY AN ELECTRIC SWITCH. THE BACKGAUGE CAN NOT MOVE IF THE SWITCH IS WORKING.



CAUTION: IN THE NEXT STEP, KEEP YOUR HANDS OFF THE CUTTING TABLE. REMEMBER TO TREAT THE POWER CLAMP WITH CARE.

JOB STEPS

11. CHECK THE POWER CLAMP BY PULLING UP ON THE FOOT PEDAL. THE CLAMP SHOULD COME DOWN. STEPPING DOWN ON THE FOOT PEDAL SHOULD CAUSE THE CLAMP TO COME UP.

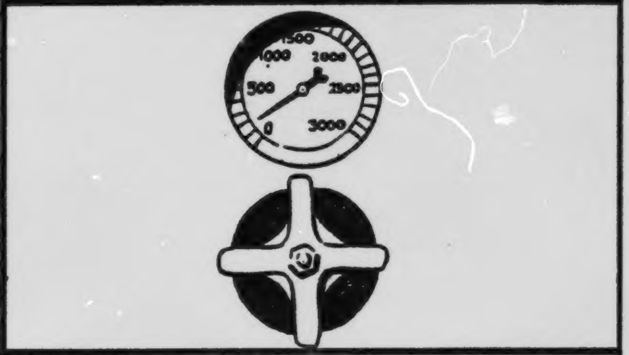


12. CHECK THE POWER CLAMP PRESSURE GAUGE AS YOU CYCLE THE CLAMP AGAIN. THE GAUGE SHOULD READ 150 PSI (POUNDS PER SQUARE INCH).

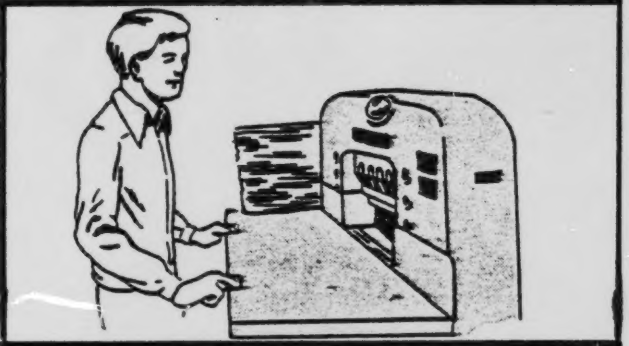
****

CAUTION: THE POWER BLADE WILL CUT ANYTHING UNDER IT. IT COMES DOWN WITH A FORCE OF 1100 PSI. MAKE SURE THAT THE ONLY THING IN THE PATH OF THE BLADE IS PAPER.

****

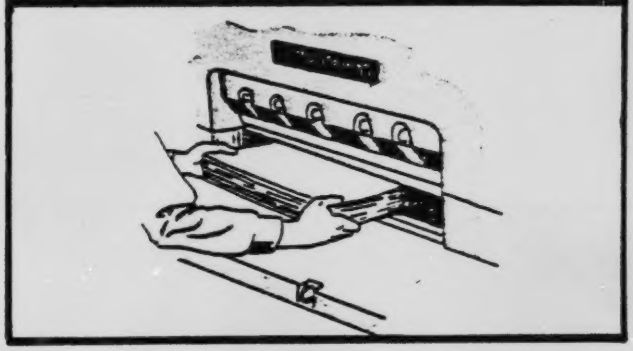


13. CHECK THE BLADE BY PUTTING YOUR RIGHT THUMB ON THE RIGHT HAND BUTTON AND YOUR LEFT THUMB ON THE LEFT HAND BUTTON AND PUSHING BOTH AT ONCE. KEEP YOUR HANDS ON THE BUTTONS UNTIL THE BLADE HAS STOPPED IN THE DOWN POSITION.



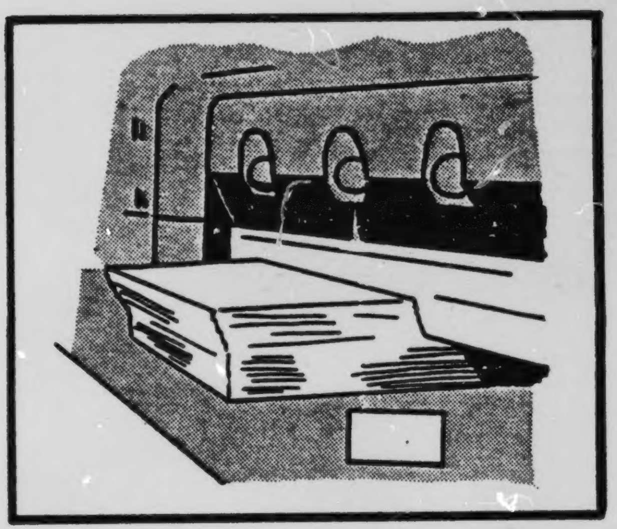
14. SET THE BACK GAUGE TO CUT YOUR PAPER INTO TWO PILES OF 8½" X 5½". THE TAPE RULER MUST READ EXACTLY 5½" AND THE GAUGE ON THE TABLE MUST READ 5½" WHEN CUTTING THE 11" WAY IN HALF.

15. JOG YOUR PILE OF PAPER AND PLACE IT IN THE CUTTER.



WORD GUIDE

ACCURACY - CORRECTNESS, EXACTNESS



16. LOWER THE POWER CLAMP.

17. CUT THE PAPER.

18. REMOVE BOTH PILES AND CHECK WITH THE RULER.

19. REPEAT STEPS 14-18 AND CUT YOUR STOCK IN HALF AGAIN, TO 4 1/4" X 5 1/2" PIECES. BE SURE TO STACK AND JOG THE TWO PILES TOGETHER BEFORE CUTTING.

20. NOW CUT YOUR STOCK IN HALF AGAIN TO 4 1/4" X 2 3/4".

21. HAVE THE INSTRUCTOR CHECK YOUR CUTTING FOR ACCURACY. IF THEY ARE CORRECT, ASK FOR JOBS TO BE CUT.

22. WHEN YOU ARE FINISHED WITH YOUR JOBS, TURN OFF THE MACHINE POWER, LINE LIGHT AND LIGHT. ALWAYS DISCARD ANY SCRAPS AND CHECK THE FLOOR AREA FOR PIECES.

graphics

unit: FINISHING AND BINDING

capital area career center

module: 1401 14 013
1401 14 013 3 date: NOVEMBER 1977 level:

skill title: CUTTING: MAINTENANCE OF CHALLENGE POWER CUTTER

developed & written by: JIM WOODWARD & GLEN PETTIT

visuals by: MAX LITTLE

WORD GUIDE

"PUTZ POMADE" - A CLEAN COMPOUND, MUCH LIKE AUTO RUBBING COMPOUND,

PASTE WAX - A WAX IN PASTE FORM, MUCH LIKE CAR POLISH, USED TO PROTECT METAL.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO MAINTAIN A CHALLENGE POWER CUTTER.

AND IN ORDER TO DO THIS YOU WILL NEED:

"PUTZ POMADE"

PASTE WAX

CLEAN RAGS

WE WILL KNOW YOU CAN DO IT WHEN:

YOU HAVE CLEANED THE CHALLENGE POWER CUTTER SO THAT THE STEEL TABLE WILL BE SMOOTH WITHOUT TARNISH OR RUST SPOTS, COMPLETELY CLEAR OF EXCESS PUTZ DIRT AND WAX AND WILL NOT LEAVE ANY DIRT OR WAX WHEN WHITE PAPER IS SLID ACROSS THE SURFACE.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

MAINTENANCE - TO KEEP REPAIRED AND IN GOOD RUNNING ORDER.

INFORMATION

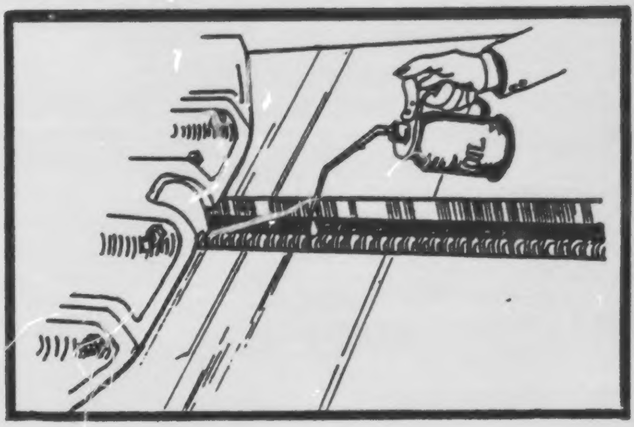
MAINTENANCE IS VERY IMPORTANT TO ALL MACHINERY. OPERATORS ARE MOST OFTEN RESPONSIBLE FOR KEEPING THEIR EQUIPMENT IN TOP RUNNING CONDITION. THE SAME IS TRUE FOR THE PAPER CUTTER OPERATOR.

YOU MAY BE ASKED TO CLEAN A PAPER CUTTER AS PART OF YOUR JOB AS AN EMPLOYEE IN THE GRAPHIC ARTS INDUSTRY.

JOB STEPS

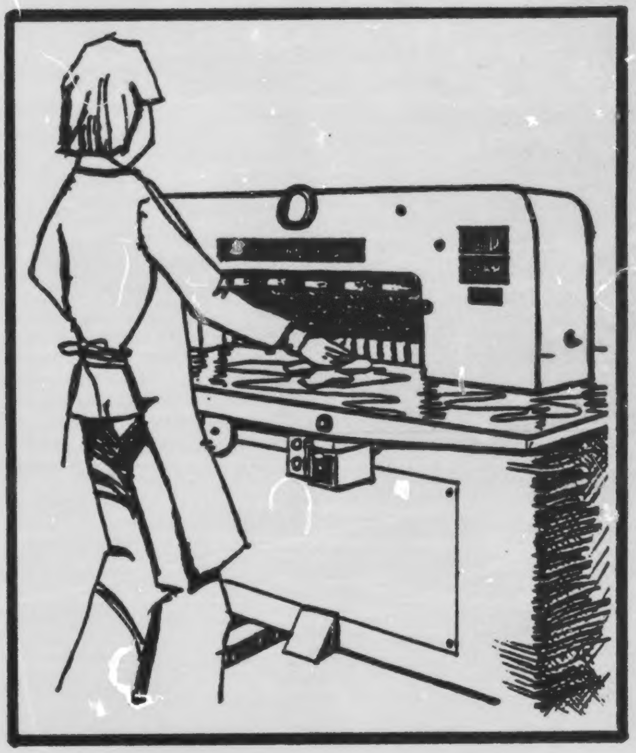
1. TAKE A CLEAN RAG AND, HOLDING THE ROUGH EDGES OUT, WIPE OFF ALL LOOSE PAPER, LINT, AND DUST FROM THE CUTTER TABLE.

2. CHECK THE FLOOR AROUND THE CUTTER. WIPE UP ALL OIL WITH PAPER TOWELS. IF YOU NOTICE ANY LARGE OIL LEAKS, SHOW YOUR INSTRUCTOR (ALL MACHINES SHOULD DRIP SOME OIL). BE CAREFUL YOU DON'T SOIL YOUR CLOTHES.



3. PLACE A DROP OF OIL FOR EVERY CENTIMETER ON THE LARGE WORM GEAR UNDER THE BACK TABLE.

4. PLACE ONE OR TWO DROPS ON EVERY POINT WHERE TWO PARTS COULD WEAR AND WHERE ANY PARTS MOVE.



5. GET AND READ THE LABEL ON THE "PUTZ POMADE" CAN. PLACE A SMALL AMOUNT ON A CORNER OF YOUR CLEAN RAG AND BEGIN "PUTZING". DO THIS THE SAME WAY YOU WOULD REMOVE SCRATCHES FROM THE FINISH OF A CAR (USE THE PUTZ LIKE YOU WOULD USE THE RUBBING COMPOUND USED ON A CAR).

6. CLEAN THE ENTIRE FRONT TABLE FIRST (IT MAY TAKE 15 MINUTES OR MORE). WHEN CLEANED, RUB OFF ALL THE PUTZ WITH THE REST OF YOUR CLEAN RAG. USE A CLEAN PIECE OF PAPER TO CHECK YOUR WORK.

7. HAVE YOUR INSTRUCTOR INSPECT YOUR JOB.

JOB STEPS

WORD GUIDE

PROTECTIVE - SAFE COVERING.

EXCESS - EXTRA

JOB STEPS

8. THE PASTE WAX CAN ALSO BE USED TO RUB A PROTECTIVE COATING ON THE METAL. AGAIN, REMOVE ALL EXCESS PASTE WAX WITH THE RAG AND CHECK YOUR WORK WITH THE CLEAN PAPER.

9. HAVE THE INSTRUCTOR INSPECT YOUR JOB.

10. CLEAN YOUR AREA AND RETURN THE CANS TO THEIR STORAGE AREA. PUT THE RAGS IN THE DIRTY RAG CAN.

CAUTION: CHECK TO SEE IF
THE CUTTER IS CLEAR
AND THEN TURN THE POWER
BACK ON AT THE WALL BOX.

graphics

unit: FINISHING AND BINDERY

capital area career center

1401 14 014

module: 1401 14 014 3 **date:** JULY 1977 **level:** I

skill title: STAPLER: OPERATION AND MAINTENANCE OF A HAND OR ELECTRIC STAPLER

developed & written by: DEBORAH J. WHITE

visuals by: CHUCK KNOCK

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO OPERATE A HAND AND AN ELECTRIC STAPLER.
2. HOW TO OPEN AND LOAD A STAPLER.
3. HOW TO DO MAINTENANCE AND REPAIRS ON A STAPLER.

IN ORDER TO DO THIS YOU WILL NEED:

HAND STAPLER
ELECTRIC STAPLER
SADDLE STAPLER
SCRAP PAPER (8 1/2" X 11")
STAPLES

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN KEEP THE STAPLERS IN PROPER WORKING ORDER.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

STAPLE - A BENT PIECE OF WIRE USED TO HOLD PAPER TOGETHER.

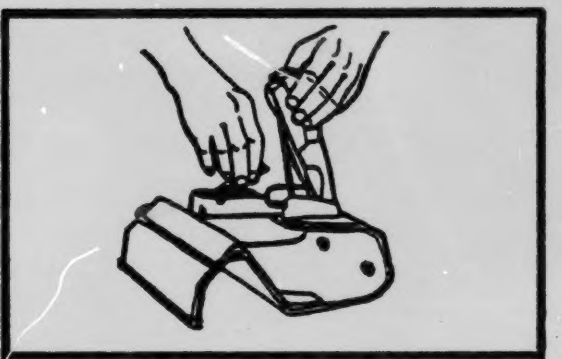
ANVIL - SURFACE ON WHICH YOU CAN BEND OR SHAPE METAL.

INFORMATION

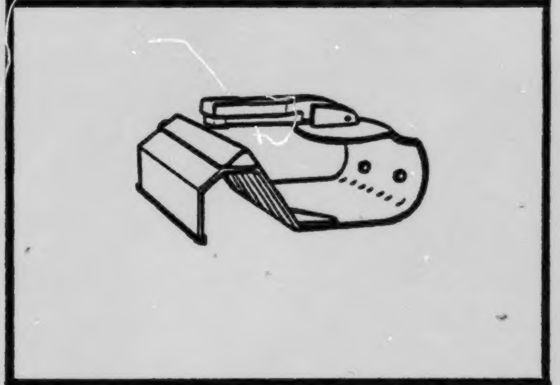
A STAPLER IS A SIMPLE MACHINE. YOU PUT PRESSURE ON THE CAP AND THE CAP PUSHES A DRIVER, WHICH PUSHES A STAPLE THROUGH THE PAPER.

INSTRUCTIONS FOR SWINGLINE SADDLE STAPLER

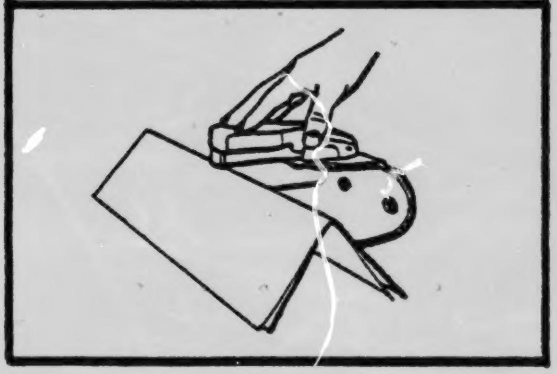
TO LOAD - SIMPLY PULL HEAD UP, DROP STAPLES IN CHANNEL.



TO CLOSE - SWING HEAD FORWARD TO ORIGINAL CLOSED POSITION.



PLACE PAPER OVER ANVIL, PRESS HEAD DOWN TO STAPLE. FOR LONG RUNS USE HANDY CALIBRATED PAPER GUIDE TO STAPLE IN SAME AREA EACH TIME.

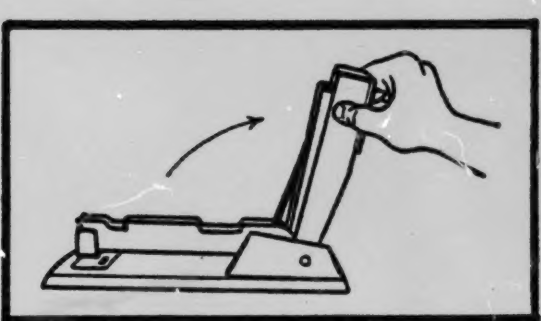


INFORMATION

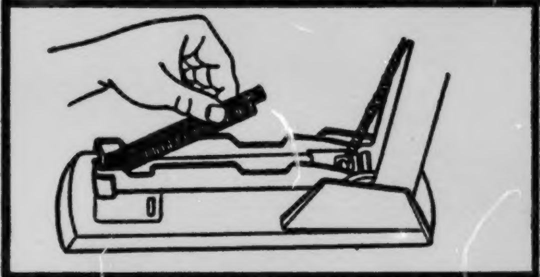
INSTRUCTIONS FOR REGULAR STAPLERS

PREPARING TO STAPLE

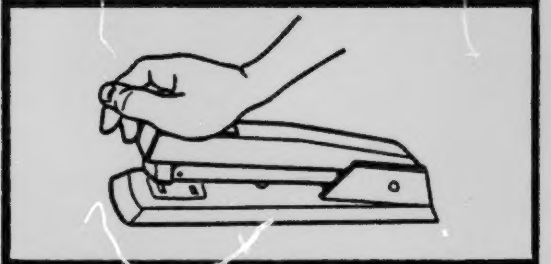
TO OPEN - LIFT CAP AND CHANNEL IS EXPOSED FOR INSTANT LOADING.



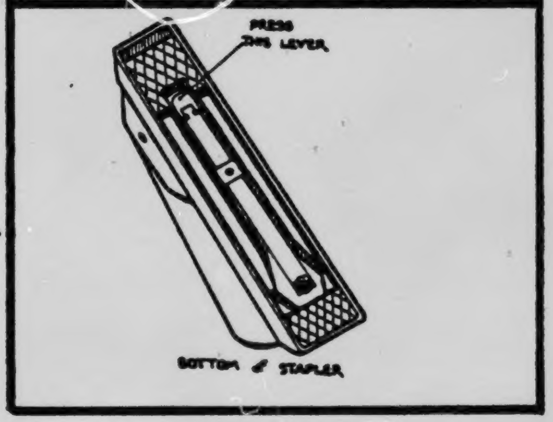
TO LOAD - DROP STAPLES INTO OPEN CHANNEL.



TO CLOSE - SWING HEAD BACK TO ITS ORIGINAL POSITION; IT LOCKS ITSELF.

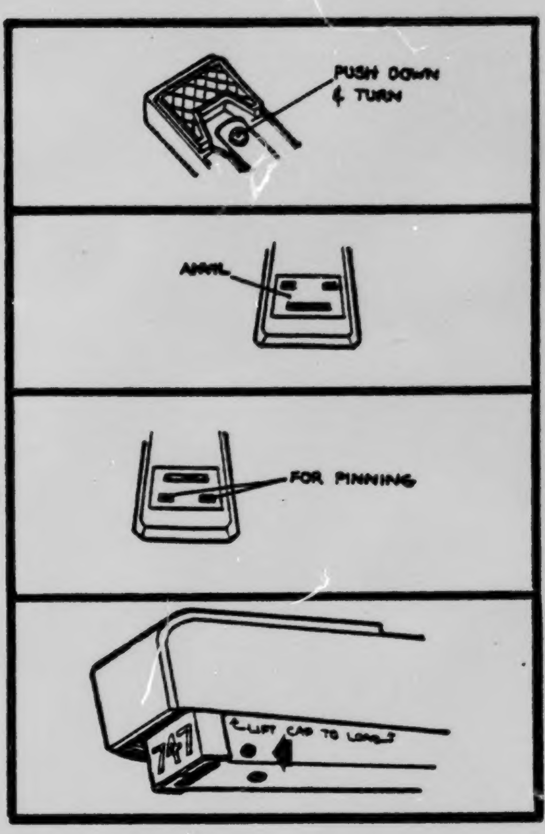


TO TACK - PRESS LATCH UNDER BASE. THIS RELEASES ENTIRE HEAD WHICH MAY THEN BE SWUNG ALL THE WAY BACK FOR TACKING.



INFORMATION

FASTENING


PUSH DOWN
& TURN
ANVIL
FOR PINNING
747
LIFT CAP TO LOAD

PUSH ANVIL UP FROM BOTTOM OF MACHINE TO ROTATE.

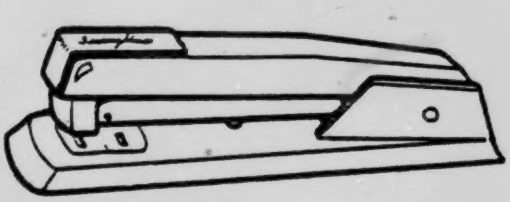
PERMANENT - ANVIL SHOULD BE POSITIONED WITH SINGLE INDENTATION FACING FRONT OF MACHINE.

TEMPORARY (PINNING) - ANVIL SHOULD BE POSITIONED WITH DOUBLE INDENTATION FACING FRONT OF MACHINE.

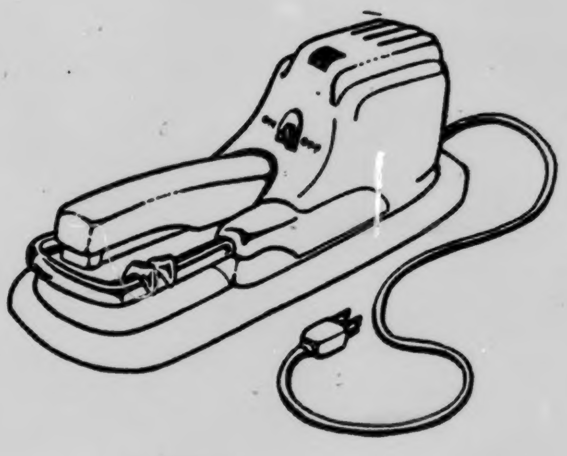
RED RELOAD DOT APPEARS WHEN STAPLE SUPPLY IS LOW.

THERE ARE THREE KINDS OF STAPLERS:

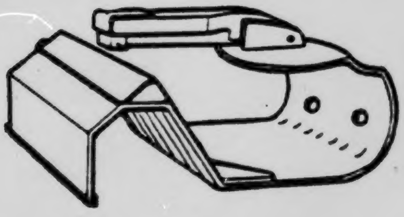
1. REGULAR STAPLER
2. ELECTRIC STAPLER
3. SADDLE STAPLER



REGULAR



ELECTRIC



SADDLE

WORD GUIDE

PERMANENT - MEANT TO LAST FOR A VERY LONG TIME.

JOB STEPS

1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

2. EXAMINE A REGULAR STAPLER:

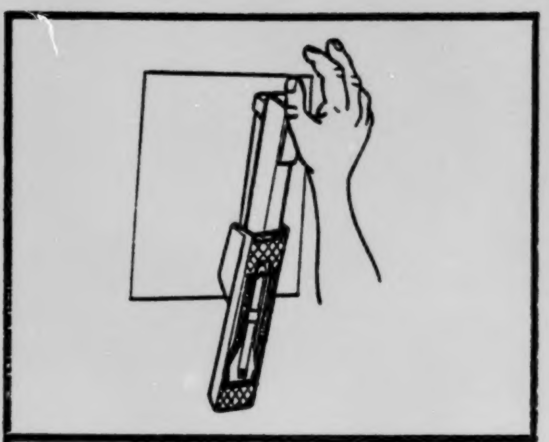
A. OPEN THE CAP AND TAKE OUT THE STAPLES.

B. RELOAD THE STAPLER AND STAPLE FOUR SHEETS OF SCRAP PAPER.

3. PRACTICE TACKING WITH A REGULAR STAPLER:

A. OPEN THE HEAD.

B. TACK A SHEET OF PAPER TO THE SOFT BULLETIN BOARD.

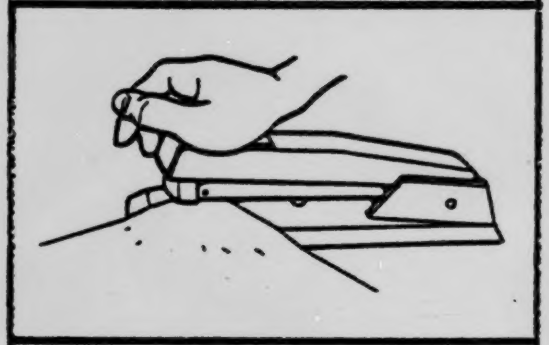


C. TAKE THE PAPER OFF THE BULLETIN BOARD.

4. PRACTICE PINNING WITH A REGULAR STAPLER:

A. ROTATE THE ANVIL BY PUSHING IT UP FROM THE BOTTOM.

B. PIN SOME SHEETS OF PAPER.

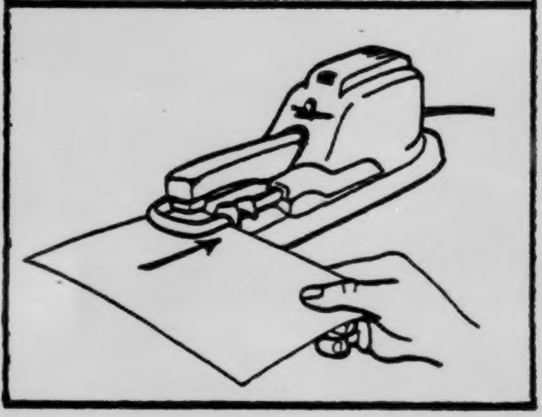


C. RETURN THE ANVIL TO PERMANENT STAPLING POSITION (AGAIN, PUSH ANVIL UP FROM BOTTOM).

5. PUT AWAY THE REGULAR STAPLER.

6. PRACTICE WITH AN ELECTRIC STAPLER:

A. PLUG IN THE STAPLER AND STAPLE SOME SHEETS OF PAPER.



B. CHANGE THE DEPTH OF THE STAPLE. THEN, CHANGE THE POSITION.

C. OPEN THE CAP, TAKE OUT THE STAPLES, AND RELOAD.

7. PUT AWAY THE ELECTRIC STAPLER.

8. PRACTICE WITH A SADDLE STAPLER:

WORD GUIDE

CROWN - TOP PART

PRY - LIFT

JAMMED - STUCK

JOB STEPS

A. FOLD TOGETHER SEVERAL SHEETS OF SCRAP PAPER AND THEN STAPLE THEM TOGETHER.

B. OPEN THE STAPLER, TAKE OUT THE STAPLES, AND RELOAD.

9. PUT AWAY THE SADDLE STAPLER.

10. THERE ARE TWO WAYS TO REMOVE (TAKE OUT) STAPLES: USE A STAPLE REMOVER OR USE YOUR FINGERNAILS.

11. USING A STAPLE REMOVER:

A. BEND STRAIGHT THE FEET OF THE STAPLE.

B. USE THE STAPLE REMOVER TO PULL THE CROWN.

12. USING YOUR FINGERNAILS:

A. BEND THE CROWN INTO A "V" SHAPE.

B. BEND OUT THE LEGS.

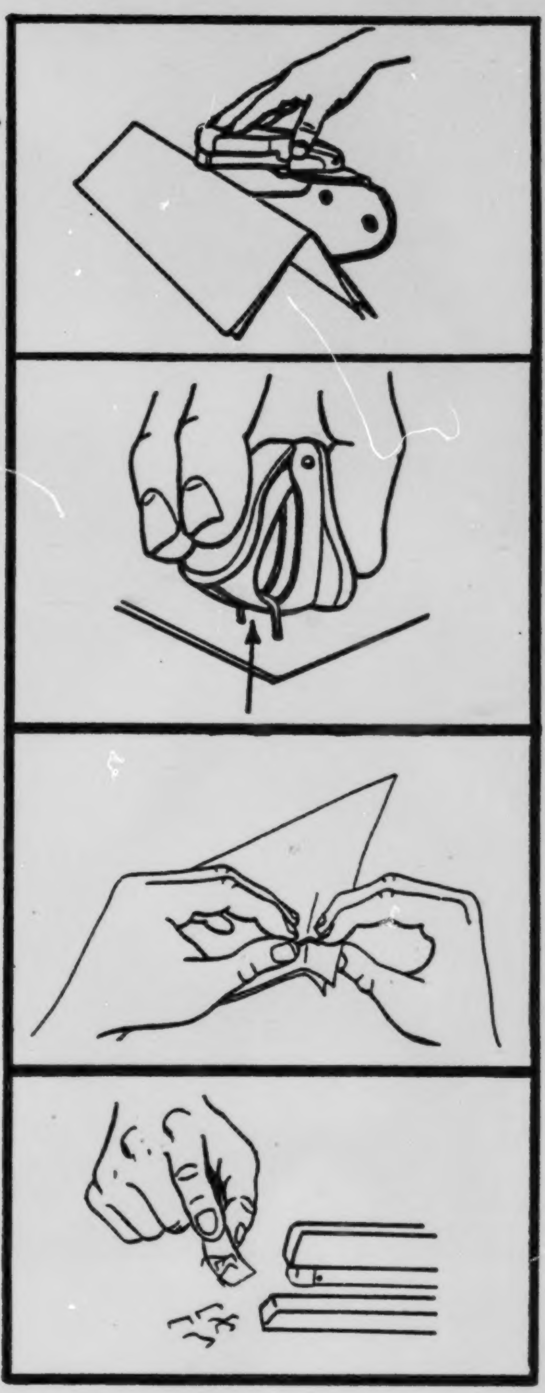
C. PULL OUT THE STAPLE WITH YOUR FINGERS.

NOTE: IF THE STAPLE IS VERY LARGE, YOU MAY PRY THE STAPLE WITH A KNIFE OR TOOL. YOU MAY HAVE TO PULL FREE A FEW SHEETS AT A TIME BEFORE YOU CAN PRY UP THE STAPLE.

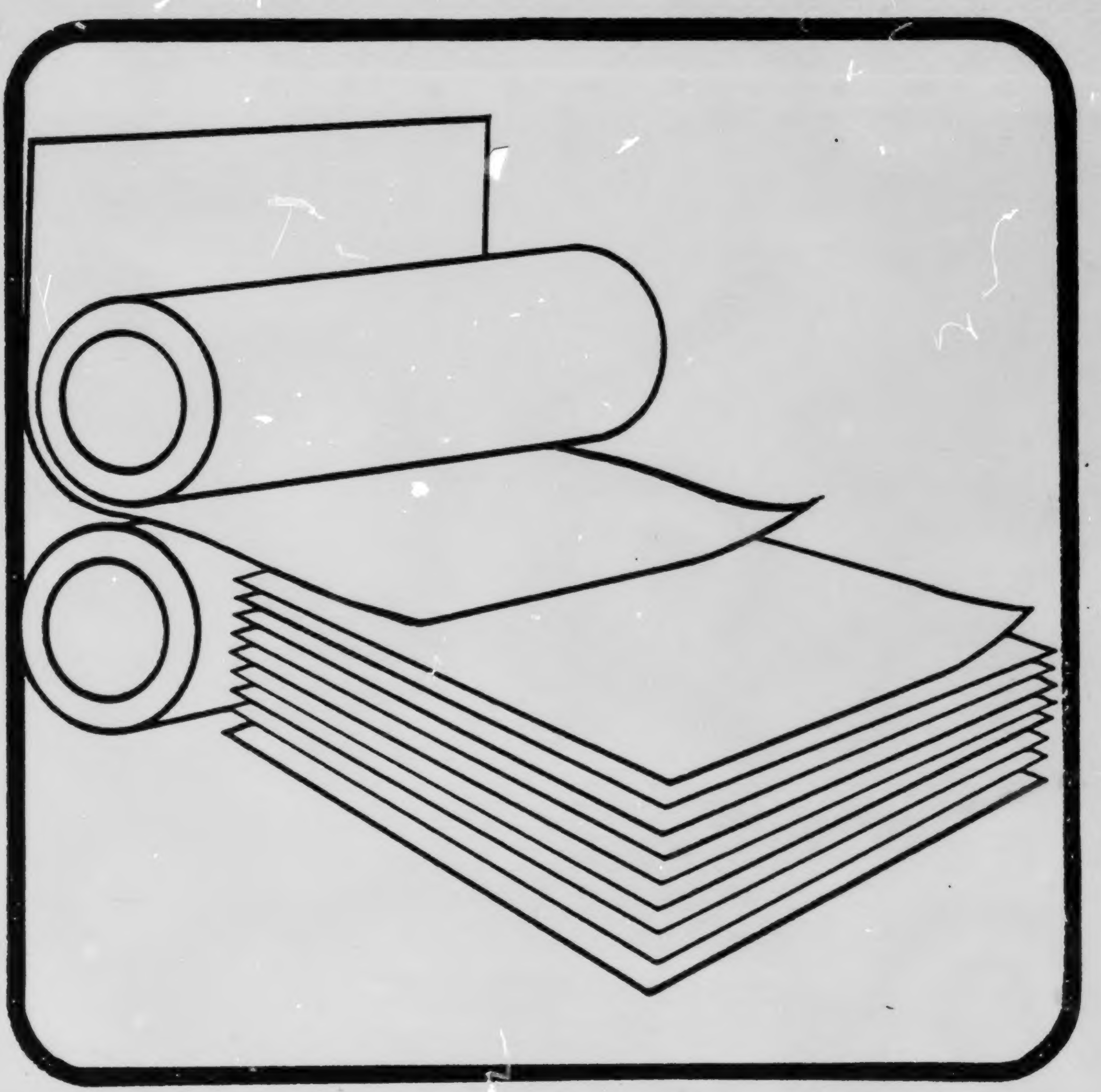
13. CLEAN UP YOUR WORK AREA.
- PICK UP ALL LOOSE STAPLES WITH A PIECE OF MASKING TAPE.

14. ASK YOUR INSTRUCTOR HOW TO FIX A STAPLER (WITH A SCREWDRIVER) WHEN IT IS "JAMMED".

15. ASK YOUR INSTRUCTOR TO SHOW YOU HOW TO SHORTEN A LOOSE SPRING IN A STAPLER WITH LONG-NOSE PLIERS.



NOTE: ALWAYS KEEP YOUR STAPLER 1/2 FULL.



graphics

unit: FINISHING AND BINDERY

capital area career center

module: 1401 14 015
1401 14 015 3 **date:** JULY 1977 **level:** II

skill title: STITCHER: BASIC OPERATION OF AN ACME STITCHER

developed & written by: DEBORAH J. WHITE

visuals by: MIKE SMITH

WORD GUIDE

SIGNATURES - SMALL BOOKLETS.

ORGANIZE - TO SET THE ORDER FOR WORK TO BE DONE FASTER.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO SET UP THE STITCHER FOR SIDE AND SADDLE STITCHING.
2. HOW TO CHANGE WIRE, ADJUST LENGTH, AND SET WORK THICKNESS ADJUSTMENTS.
3. HOW TO ORGANIZE WORK FLOW ON THE STITCHER.

IN ORDER TO DO THIS YOU WILL NEED:

BOOKLETS TO BE SIDE-STITCHED
SIGNATURES TO BE SADDLE-STITCHED
SLIDE-TAPE PRESENTATION ON BASIC STITCHER OPERATION
SIDE TABLE
SADDLE TABLE
SMALL AND LARGE SCREWDRIVERS
LONG-NOSE PLIERS
ACME-INTERLAKE STITCHER
#20-25 FLAT WIRE
#25 ROUND WIRE
8 1/2" X 11" SCRAP PAPER

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN CHANGE WIRE GAUGE AND THREAD THE STITCHER QUICKLY AND CORRECTLY.
2. YOU CAN ADJUST THE PRESSURE FOR WORK THICKNESS.
3. YOU CAN ADJUST WIRE FEED LENGTH FOR PERFECT LEG AND FOOT SIZE.
4. YOU ORGANIZE THE WORK AREA TO GET WORK DONE QUICKLY AND NEATLY.
5. YOU TAKE A QUIZ AND PASS IT WITH 80% ACCURACY.

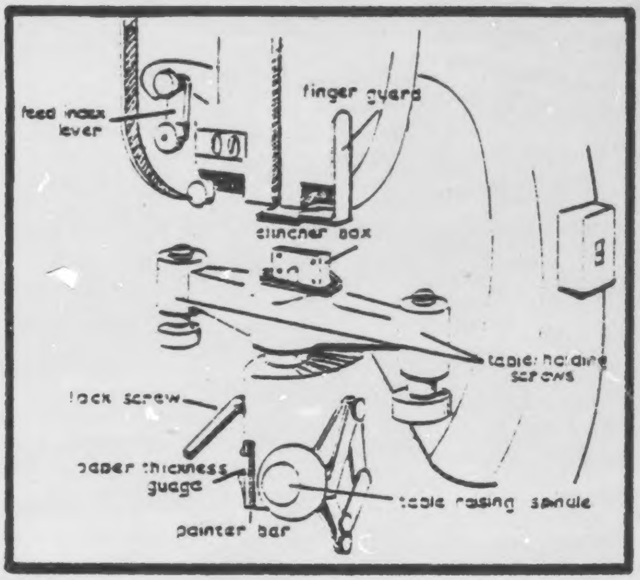
A TAPE OF THIS MODULE IS AVAILABLE.

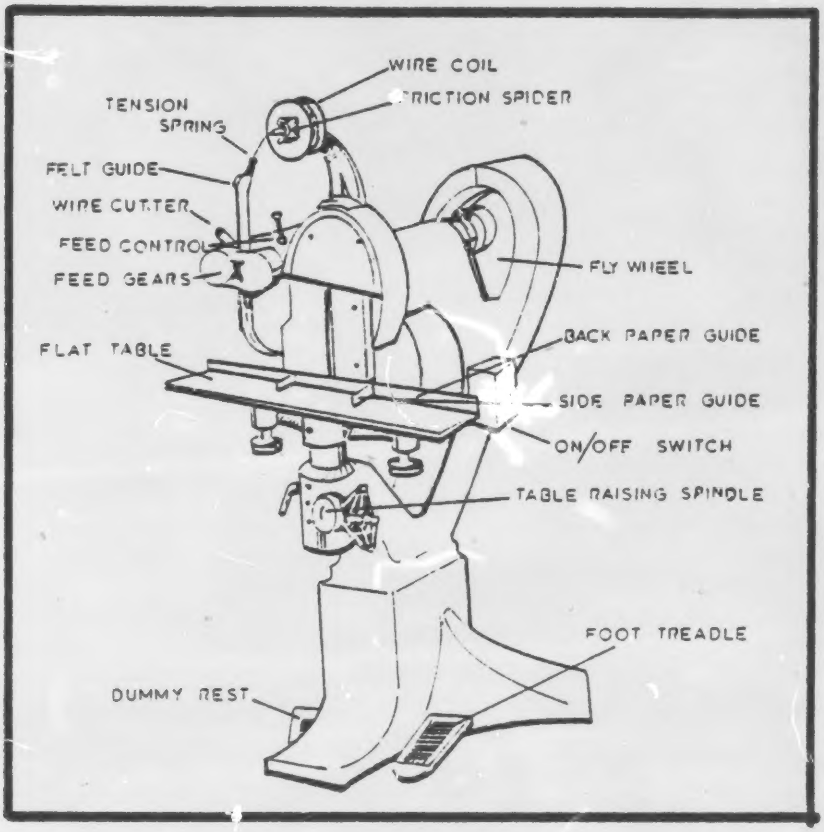
JOB STEPS

1. LOCATE THE STITCHER. DO NOT TOUCH OR OPERATE IT UNTIL YOU KNOW ALL OF THE PARTS.

2. FIND ALL OF THE PARTS SHOWN ON THESE TWO DRAWINGS ON OUR STITCHER. WHEN YOU KNOW ALL OF THESE PARTS, HAVE YOUR INSTRUCTOR ASK YOU SOME QUESTIONS. YOUR INSTRUCTOR WILL GO OVER SOME IMPORTANT SAFETY RULES ON THE STITCHER AND SHOW YOU WHERE THE STITCHER TOOLS AND PARTS ARE KEPT.

CAUTION: ALWAYS BE SURE THE STITCHER IS OFF WHEN YOU MAKE ANY ADJUSTMENTS.


feed index lever
finger guard
clincher box
table holding screws
lock screw
paper thickness guage
pointer bar
table raising spindle


WIRE COIL
FRICTION SPIDER
TENSION SPRING
FELT GUIDE
WIRE CUTTER
FEED CONTROL
FEED GEARS
FLY WHEEL
FLAT TABLE
BACK PAPER GUIDE
SIDE PAPER GUIDE
ON/OFF SWITCH
TABLE RAISING SPINDLE
FOOT TREADLE
DUMMY REST

WORD GUIDE

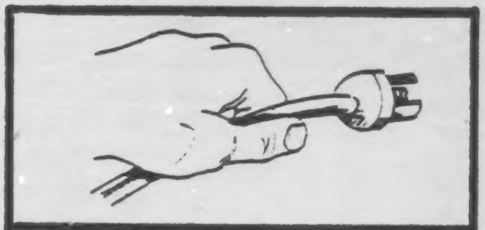
CLINCHER - SOMETHING WHICH BENDS WIRE TO FORM A " ┌─┐ " SHAPED STAPLE AND GUIDES IT INTO PAPER.

COUNTER-CLOCKWISE - TO THE LEFT.

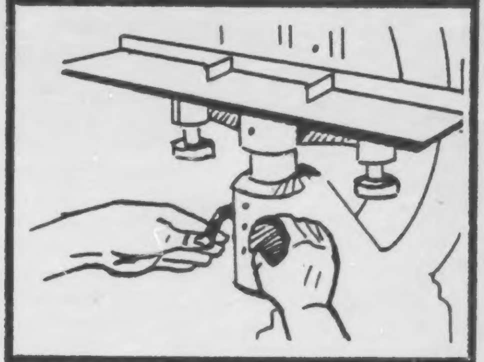
CLOCKWISE - TO THE RIGHT.

JOB STEPS

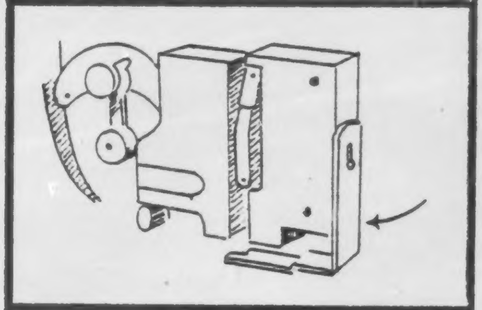
3. PLACE A METAL STOOL IN FRONT OF THE STITCHER AND PLUG THE STITCHER IN FOR POWER.



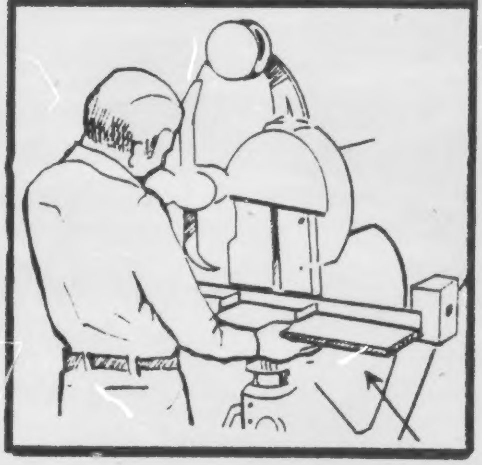
4. LOWER THE CLINCHER (COMPRESSION) AS FAR AS POSSIBLE BY LIFTING THE SPINDLE LOCK AND TURNING THE WHEEL COUNTER-CLOCKWISE.



5. RAISE THE FINGER GUARD (SCREWDRIVER).

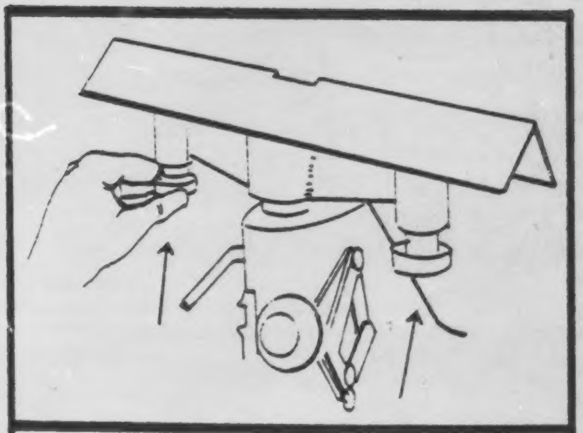


6. REMOVE THE FLAT TABLE BY UNSCREWING THE TWO SCREWS BELOW IT (SCREWS WILL NOT FALL OUT). CAREFULLY LIFT THE TABLE OUT FROM THE HEAD.

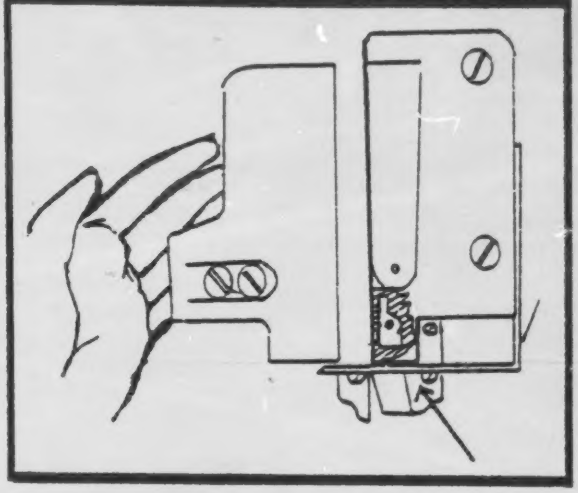


JOB STEPS

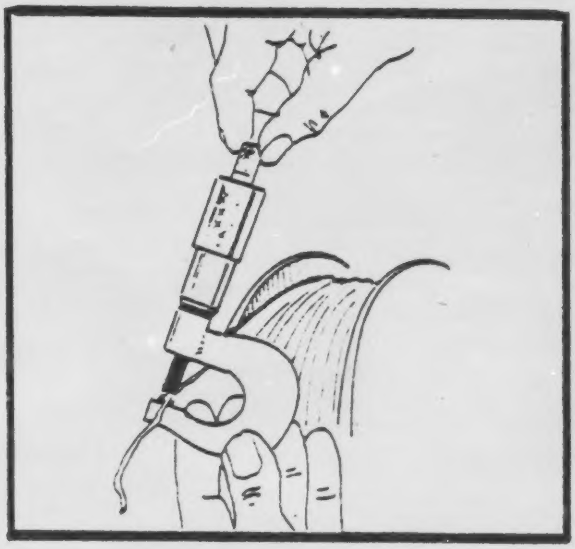
7. PUT IN THE SADDLE TABLE BY CAREFULLY LOWERING THE SADDLE TABLE BEHIND THE HEAD. TIGHTEN THE TWO SCREWS BELOW IT. →



8. CHECK TO BE SURE THE STITCHER HAS THE CORRECT CUT-OFF DIE, FORMERS AND DRIVER (#20 X 25) LIKE YOUR INSTRUCTOR DEMONSTRATED. DO NOT CHANGE THESE YOURSELF, ASK FOR HELP. →

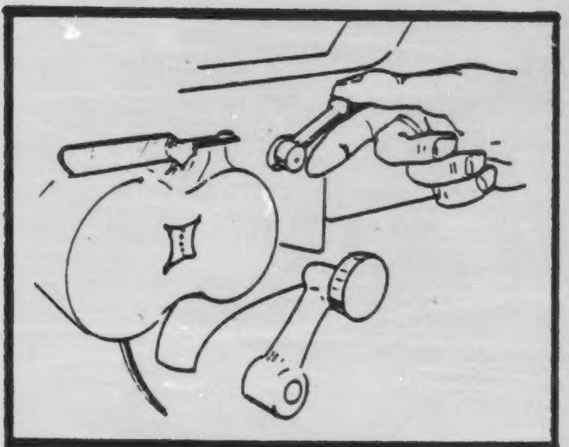


9. CHECK TO SEE THAT #25 THIN WIRE IS ON TOP OF THE STITCHER. YOU CAN USE A MICROMETER TO MEASURE THE THICKNESS OF THE WIRE, IT SHOULD BE .040" THICK. →



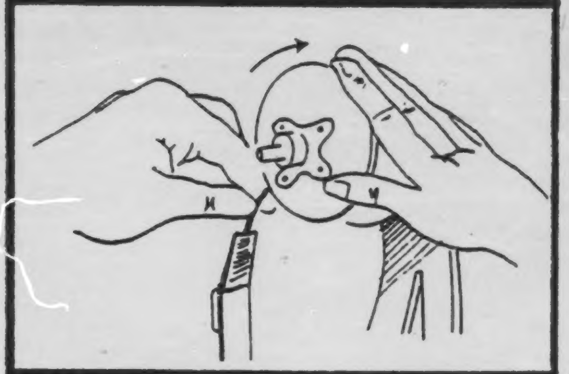
JOB STEPS

10. TO REMOVE THE WIRE COIL, FIRST UNLOCK THE WIRE FEED GEARS.

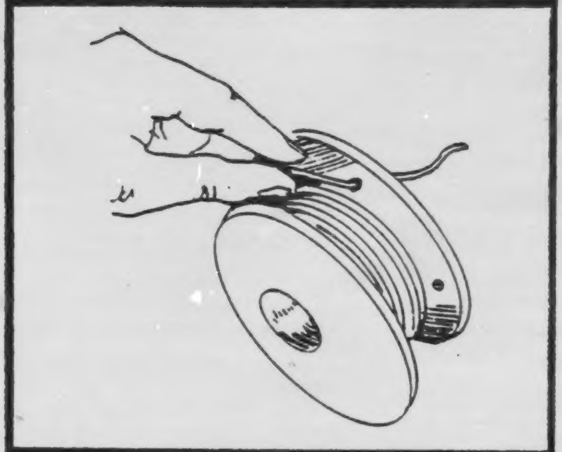


11. HOLDING THE WIRE WITH YOUR LEFT HAND, SLOWLY TURN THE WIRE COIL CLOCKWISE UNTIL THE WIRE IS OUT OF THE TENSION SPRING.

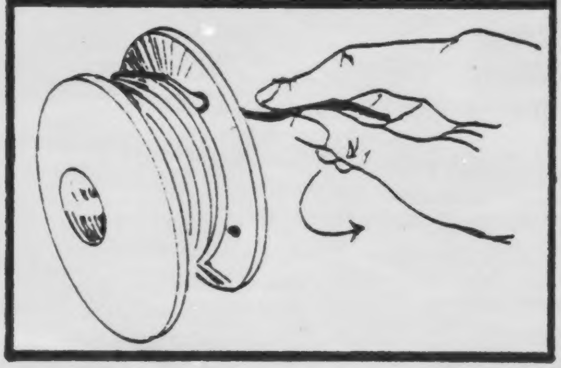
NOTE: DO NOT LET GO OF THIS WIRE!



12. FIND THE SMALL HOLES ON THE SIDE OF THE WIRE SPOOL AND THREAD THE END OF THE WIRE INTO ONE OF THE HOLES. HOLD ON TO THE WIRE.

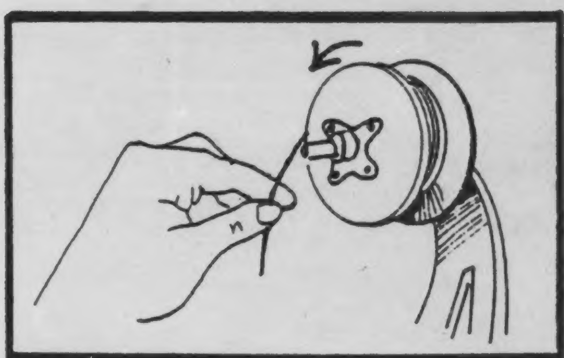


13. TWIST THE WIRE SO IT WILL NOT UNWIND (HOLD ON TO THE WIRE).

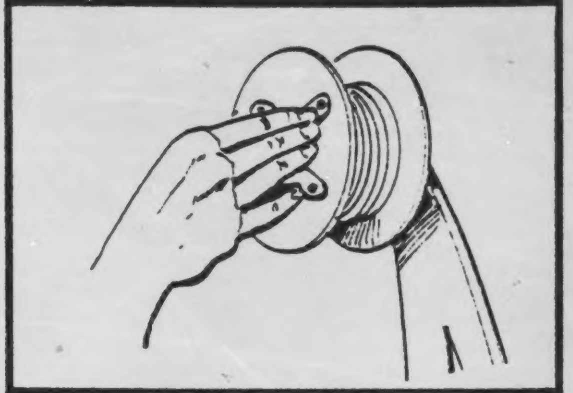


JOB STEPS

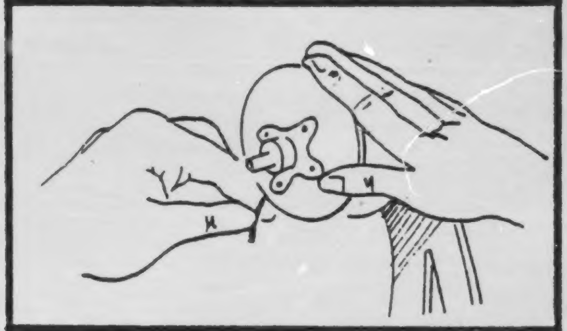
14. PUT THE WIRE COIL OF #25 ROUND WIRE ON THE COIL HOLDER SO IT WILL UNWIND COUNTER-CLOCKWISE. →



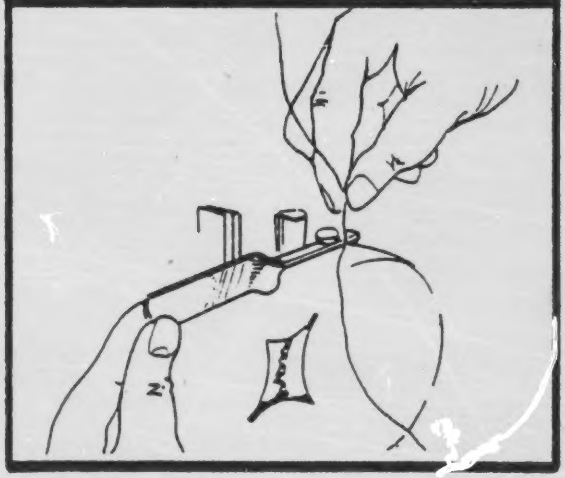
15. REPLACE AND TIGHTEN THE COIL SPIDER. HOLD TIGHTLY. →



16. UNTWIST THE LOOSE END. HOLD TIGHTLY. →

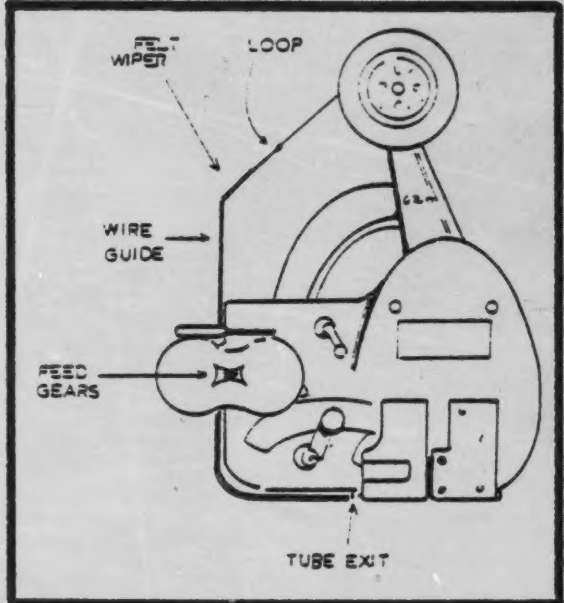


17. WITH THE BUILT-IN WIRE CUTTER, CUT OFF THE BENT WIRE ABOVE THE FEED GEARS. YOU SHOULD HAVE A SMOOTH, STRAIGHT WIRE TO THREAD. →

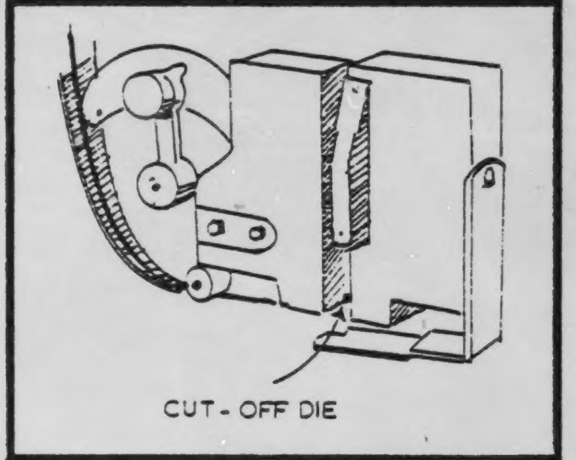


JOB STEPS

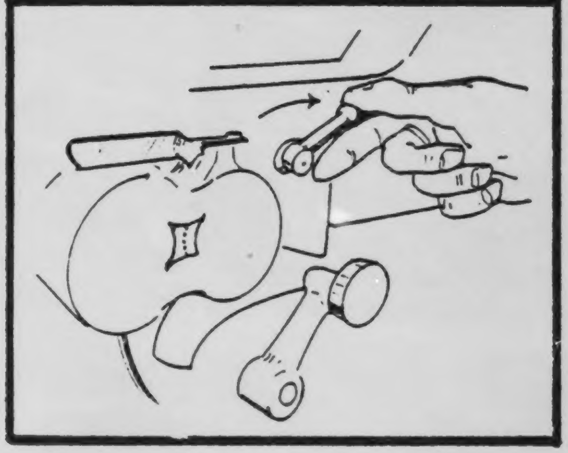
18. THREAD THE WIRE THROUGH THE TENSION SPRING LOOP, FELT WIPER, WIRE GUIDE, AND FEED GEARS. YOU SHOULD SEE THE WIRE AT THE TUBE EXIT. →


FELT WIPER
LOOP
WIRE GUIDE
FEED GEARS
TUBE EXIT

19. PUSH THE WIRE THROUGH THE CUT-OFF DIE. →



20. TURN THE WIRE FEED-CONTROL LEVER, CLOCKWISE. THIS WILL CLOSE THE WIRE FEED GEARS. →

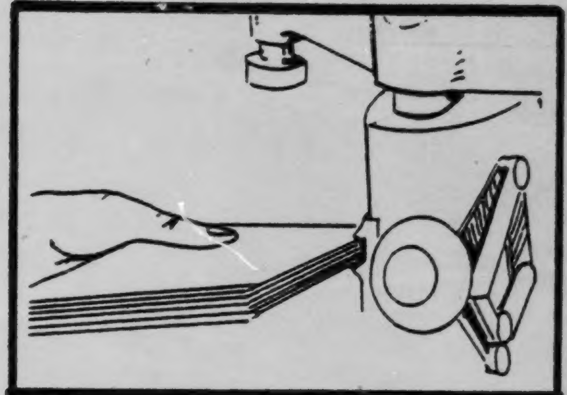


WORD GUIDE

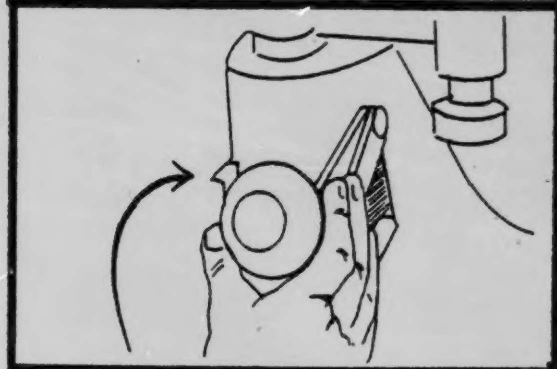
JOB - PAPERS TO BE STITCHED.

JOB STEPS

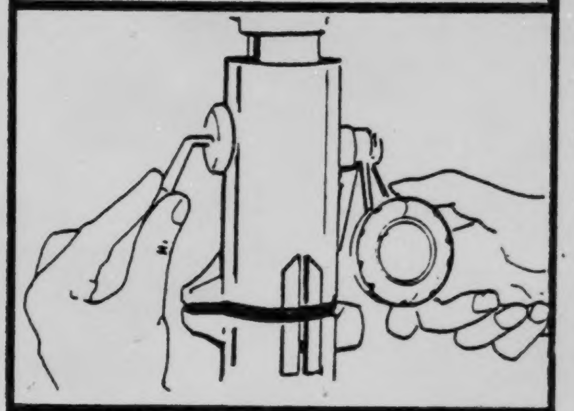
21. PUT SIX SHEETS OF PAPER IN THE PAPER GAUGE (BELOW THE SPINDLE LOCK SCREW).



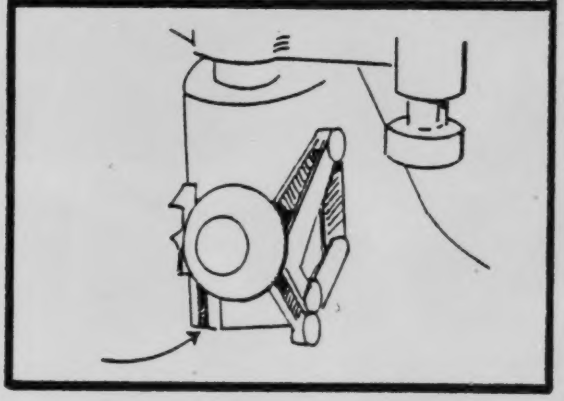
22. TURN THE TABLE ADJUSTING SCREW-WHEEL. CLOCKWISE (TO THE RIGHT OF THE GAUGE). RAISE THE TABLE AND SPINDLE UNTIL THE PAPER GAUGE WILL HOLD THE SIX SHEETS FIRMLY ("SNUG").



23. LOCK THE SPINDLE LOCK-SCREW. THIS SETS THE RIGHT CLINCHER AND FORMER PRESSURE.



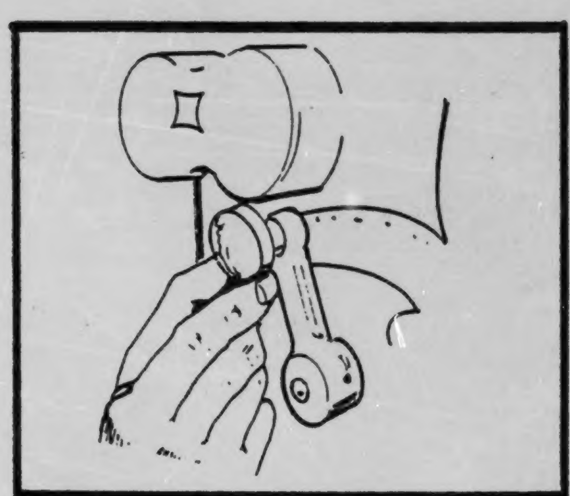
24. FIND THE POINTER-BAR AND NUMBERS BETWEEN THE PAPER GAUGE AND SPINDLE WHEEL. SET THE BAR ON #1 FOR THIS JOB OF SIX SHEETS OF PAPER.



JOB STEPS

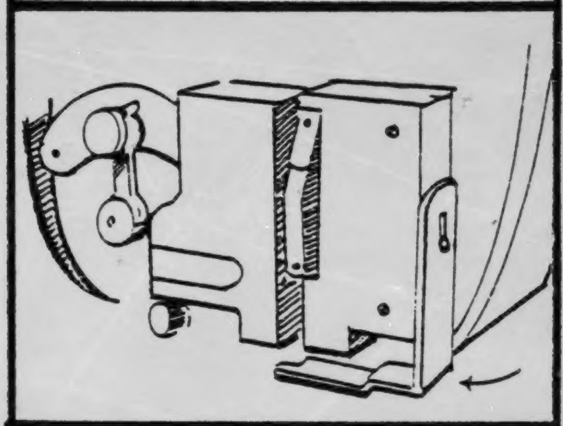
25. SET THE WIRE FEED INDEX LEVER FOR THIS SETTING (THE LEVER IS ON THE HEAD). THIS TELLS THE LENGTH OF WIRE THAT WILL COME OUT OF THE STITCHER. →

NOTE: TO INCREASE OR DECREASE THE WIRE LENGTH, SET THE WIRE FEED INDEX LEVER. →

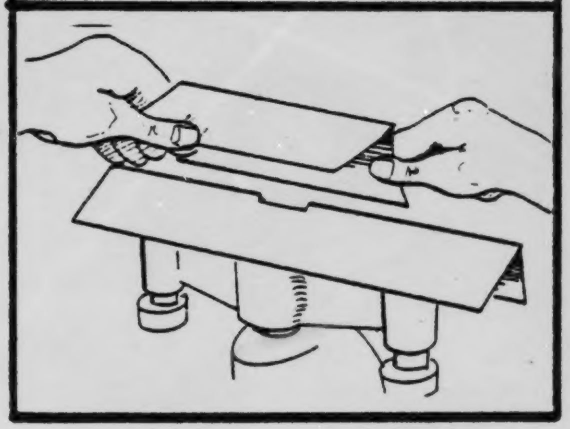


26. LOWER THE FINGER GUARD. IT SHOULD BE 3 MM OR 4 MM ABOVE THE JOB. →

NOTE: ALWAYS SET THE FINGER GUARD. IT WILL KEEP YOU SAFE!



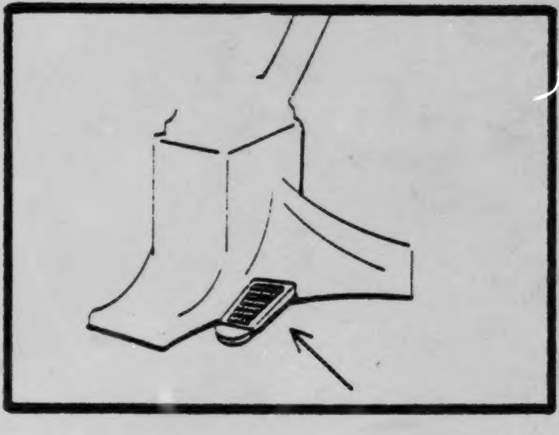
27. FOLD THE SIX SHEET OF 8½" X 11" PAPER IN HALF, LENGTHWISE AND THEN PUT THEM ON THE SADDLE TABLE. →



JOB STEPS

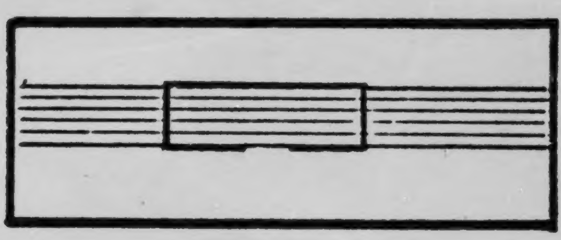
28. TURN ON THE STITCHER AND PRESS THE RIGHT FOOT PEDAL GENTLY AND QUICKLY.

NOTE: DO NOT HOLD YOUR FOOT DOWN ON PEDAL; THE STITCHER WILL STITCH ANYWAY.

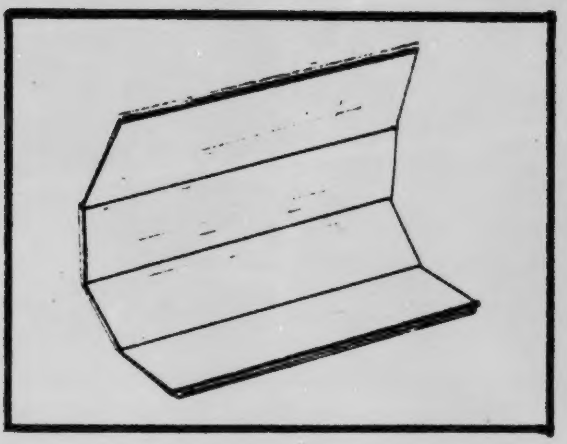


29. MOVE THE PAPER AFTER EVERY STITCH, MAKE THREE MORE STITCHES ON YOUR PAPER WITH ABOUT 1/2" BETWEEN THE STAPLES. NOW LOOK AT YOUR STAPLES, IT TAKES THREE STITCHES BEFORE YOU START GETTING THE CORRECT ONE YOU SET THE MACHINE UP FOR. THERE IS ALREADY A WIRE CUT AND A PIECE READY TO BE CUT IN THE STITCHER, THIS IS WHY THE FIRST TWO STAPLES WILL BE WRONG WHEN YOU MAKE AN ADJUSTMENT.

30. A PERFECT STAPLE SHOULD HOLD THE PAPER TIGHTLY WITHOUT LEAVING CREASE MARKS. THE FEET SHOULD BE TIGHT AND ALMOST TOUCH EACH OTHER. THE CROWN SHOULD BE TIGHT SO IT IS HARD TO GET YOUR FINGER NAIL UNDER IT. YOU WILL NOT BE ABLE TO SEE ANY OF THE STAPLE LEG.



31. MAKE TWO MORE 11" FOLDS IN YOUR PAPER AND PRACTICE STITCHING. KEEP THE STITCHES ABOUT 1 CM (1/2") APART AND BE CAREFUL NOT TO HOLD THE FOOT TREADLE DOWN TO LONG OR YOU MAY GET TWO STITCHES ON TOP OF EACH OTHER.



WORD GUIDE

FAULTY - NOT RIGHT

JOB STEPS

32. MAKE THREE STITCHES WITH EACH OF THESE ADJUSTMENTS ON THE STITCHER. KEEP STITCHES 1 CM (ABOUT 1/2") APART AND CHECK THE CHANGES IN THE STAPLES.

A. MAKE THREE GOOD STITCHES.

B. LENGTHEN THE WIRE FEED TWO NUMBERS - MAKE THREE STITCHES. CHECK YOUR WORK.

C. RETURN TO "NORMAL" SETTING, MAKE THREE GOOD STITCHES. CHECK YOUR WORK.

D. SHORTEN THE WIRE FEED, MINIMUM, MAKE THREE STITCHES. CHECK.

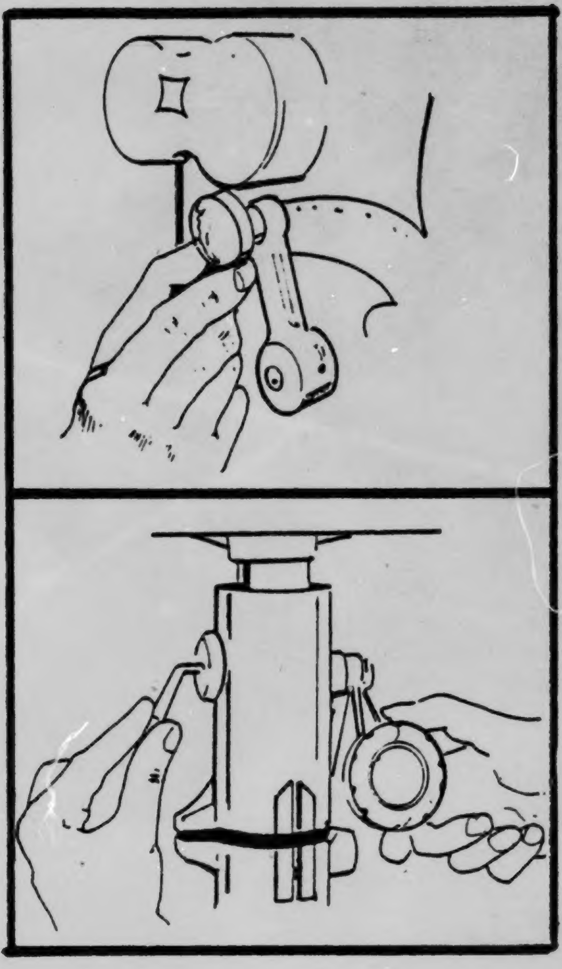
E. RETURN TO "NORMAL" - MAKE THREE GOOD STITCHES. CHECK.

F. TIGHTEN THE CLINCHER PRESSURE (COMPRESSION) - MAKE THREE STITCHES. CHECK.

G. RETURN TO "NORMAL" - MAKE THREE GOOD STITCHES. CHECK.

H. LOOSEN THE CLINCHER PRESSURE, MAKE THREE STITCHES. CHECK.

I. RETURN TO "NORMAL" - MAKE THREE GOOD STITCHES. CHECK.



33. LOOK AT YOUR WORK. FIND THE GOOD STITCHES. LOOK AT THE BAD STITCHES. LEARN WHAT YOU DID TO MAKE EACH FAULTY STITCH.

34. REPEAT JOB STEPS 38 & 39 UNTIL YOU CAN MAKE THE ADJUSTMENTS ON THE STITCHER QUICKLY AND CAN TELL WHAT IS WRONG WITH THE FAULTY STITCHES.

NOTE: YOU MUST KNOW HOW TO FIX A PROBLEM ON THE STITCHER, SO PRACTICE WITH AN ADVANCED STUDENT.

JOB STEPS

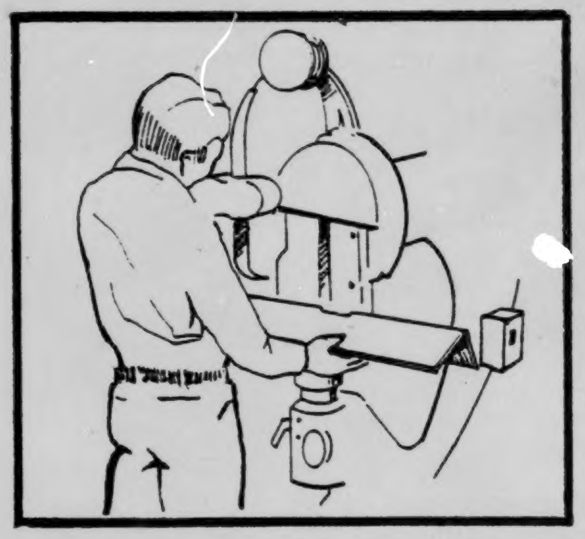
35. CIRCLE AN EXAMPLE FOR EACH OF THE FOUR ADJUSTMENTS YOU JUST MADE AND WRITE DOWN ON YOUR PRACTICE PAPER WHAT IS WRONG. SHOW THIS TO YOUR INSTRUCTOR AND BE PREPARED TO ANSWER QUESTIONS.

36. TAKE THE SADDLE TABLE OFF THE STITCHER: →

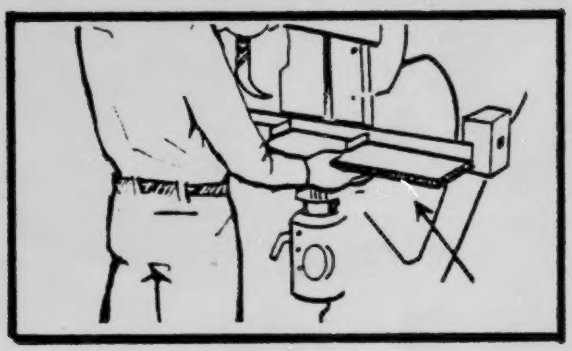
A. UNSCREW THE TWO SCREWS.

B. LIFT OFF THE TABLE.

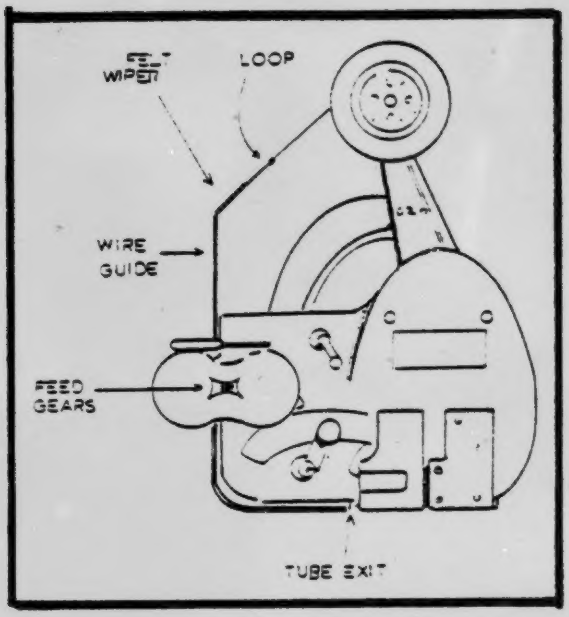
C. RAISE FINGER GUARD.



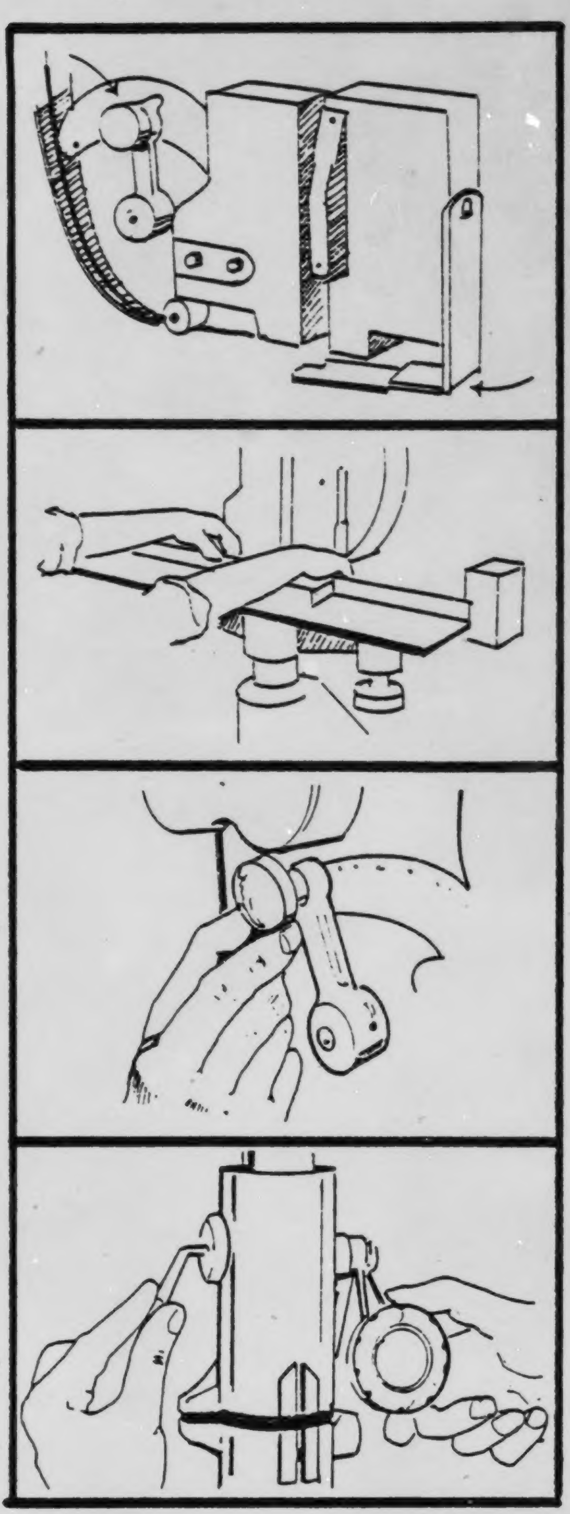
37. PUT THE FLAT SIDE TABLE ON THE STITCHER. TIGHTEN THE TWO SCREWS. →



38. CHANGE THE WIRE GAUGE TO 20" X 25" FLAT. THREAD THE STITCHER (SEE STEPS 16-26). →



JOB STEPS



39. SET THE COMPRESSION WITH THE PAPER GAUGE FOR A 1 CM THICK JOB.

40. SET THE WIRE FEED LEVER AND LOWER THE FINGER GUARD.

41. DOUBLE-CHECK YOUR WORK. BE SURE THE STITCHER IS SET RIGHT AND ASK YOUR INSTRUCTOR TO CHECK THE STITCHER.

42. SET THE BACK GAUGE FOR 5 MM, USING A SCREWDRIVER TIGHTEN THE TWO GAUGE SCREWS TO SET THE BACK GAUGE FOR 5 MM.

43. YOU MAY STITCH ALL FOUR SIDES OF YOUR STACK OF PAPER. MAKE THREE OF EACH KIND OF STITCH. KEEP STITCHES 1 CM APART.

A. MAKE THREE GOOD STITCHES, CHECK YOUR WORK.

B. LENGTHEN THE WIRE FEED TWO NUMBERS - MAKE 3 STITCHES, CHECK.

C. RETURN TO "NORMAL" SETTING, MAKE 3 GOOD STITCHES, CHECK.

D. SHORTEN THE WIRE FEED TWO NUMBERS - MAKE 3 STITCHES, CHECK.

E. RETURN TO "NORMAL", MAKE THREE GOOD STITCHES, CHECK.

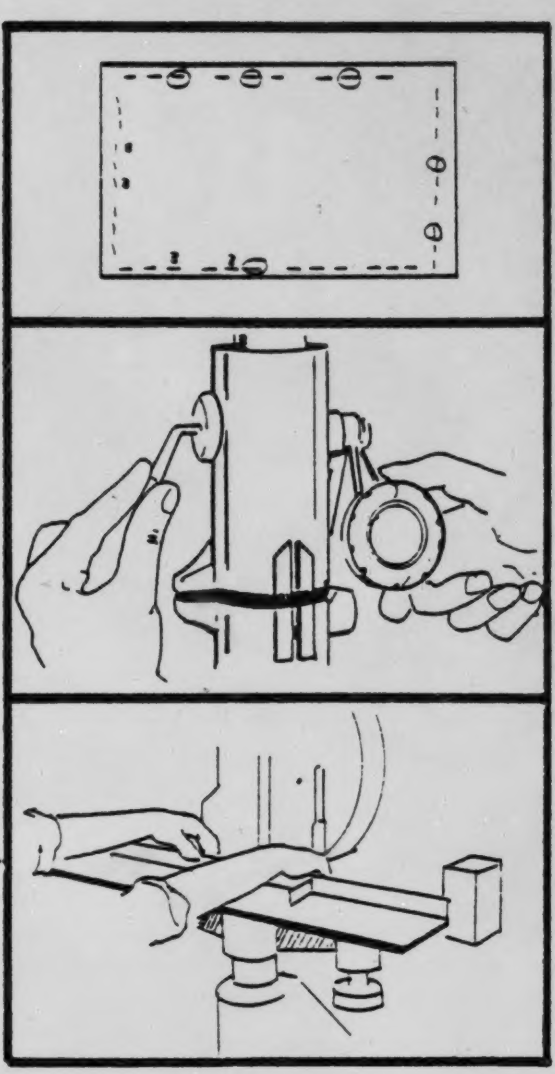
F. TIGHTEN CLINCHER PRESSURE, MAKE 3 STITCHES, CHECK.

G. RETURN TO "NORMAL" - MAKE 3 GOOD STITCHES, CHECK.

JOB STEPS

H. LOOSEN CLINCHER PRESSURE, MAKE THREE STITCHES, CHECK.

I. RETURN TO "NORMAL" - MAKE THREE GOOD STITCHES. CHECK YOUR WORK.



44. CIRCLE AN EXAMPLE FOR EACH OF THE FOUR ADJUSTMENTS YOU JUST MADE AND WRITE DOWN WHAT IS WRONG. SHOW THIS TO YOUR INSTRUCTOR.

45. NOW SET UP THE STITCHER FOR A "NORMAL" SETTING WHICH IS:

TWO STITCHES ON THE 11" SIDE OF AN 8½" X 11" BOOD, 2½" IN FROM THE ENDS, TO DO THIS:

A. GET 100 SHEETS OF 8½" X 11" PAPER.

B. SET THE COMPRESSION AND WIRE LENGTH FOR 100 SHEETS.

C. SET THE RIGHT AND LEFT SIDE GUIDES AT 8½" FROM THE CENTER OF THE STITCH.

D. SET THE BACKGAUGE DEPTH FOR 5 MM.

E. LOWER THE FINGER GUARD TO JUST ABOVE THE STOCK.

F. MAKE SOME TEST STITCHES TO BE SURE THE STITCHER IS OPERATING AND SET-UP OK.

46. UNPLUG THE STITCHER AND WRAP THE CORD AROUND THE BACK OF THE MACHINE. SWEEP UP ANY WIRE OR PAPER AROUND THE MACHINE AND RETURN ALL TOOLS.

47. TAKE THE SELF-QUIZ ON THE NEXT PAGE. WRITE YOUR ANSWERS ON A SEPARATE SHEET OF SCRAP PAPER. WHEN FINISHED, CHECK YOUR ANSWERS. BE SURE YOU UNDERSTAND ANY THAT YOU HAVE MISSED.

QUIZ

ANSWER THE QUESTIONS ON SCRAP PAPER. THE CORRECT ANSWERS ARE ON PAGE 17 OF THIS MODULE. GIVE 10 POINTS IF YOUR FIRST ANSWER IS RIGHT. GIVE 5 POINTS IF YOU CHANGE IT TO A RIGHT ANSWER. YOU SHOULD SCORE AT LEAST 80%.

STITCHER OPERATION:

1. WHAT IS THE MAXIMUM WORK THICKNESS (PAPER) ON THIS STITCHER?
2. IF THE TOP OF A STAPLE IS TOO HIGH, WHAT DO YOU DO TO THE STITCHER TO MAKE THE STAPLE TIGHTER?
3. THE LARGER THE GAUGE NUMBER, THE (LARGER/SMALLER) THE WIRE (CHOOSE ONE).
4. WHAT IS THE "CROWN", "LEG" AND "FOOT"?
5. LIST THE FOUR THINGS YOU MUST DO TO THE STITCHER WHEN YOU CHANGE FROM A JOB OF SIX SHEETS TO A JOB OF 100 SHEETS.
6. WHAT IS THE DIFFERENCE BETWEEN A STITCHER AND A STAPLER?
7. WHAT DOES THE FELT WIPER ON THE TENSION SPRING DO?
8. WHAT WILL HAPPEN TO THE LEGS OF THE STITCH IF THERE IS TOO MUCH WIRE?
9. WHAT IS SIDE STITCHING? WHAT IS SADDLE STITCHING?
10. WHEN THE WIRE FEED CONTROL IS CHANGED, WHY DOES IT TAKE SEVERAL STITCHES BEFORE THE CORRECT LENGTH OF WIRE STARTS?

ANSWERS TO SELF QUIZ

1. 3/4" OR 2 CM

2. RAISE THE TABLE (INCREASE COMPRESSION)

3. SMALLER

4. CROWN - TOP PART OF THE STITCH.
   LEG - PART THAT IS IN THE PAPER.
   FOOT - THE 2 SHORT ENDS THAT HOLD THE PAPERS UP AGAINST THE CROWN.

5. WIRE, WIRELENGTH, COMPRESSION, FINGER

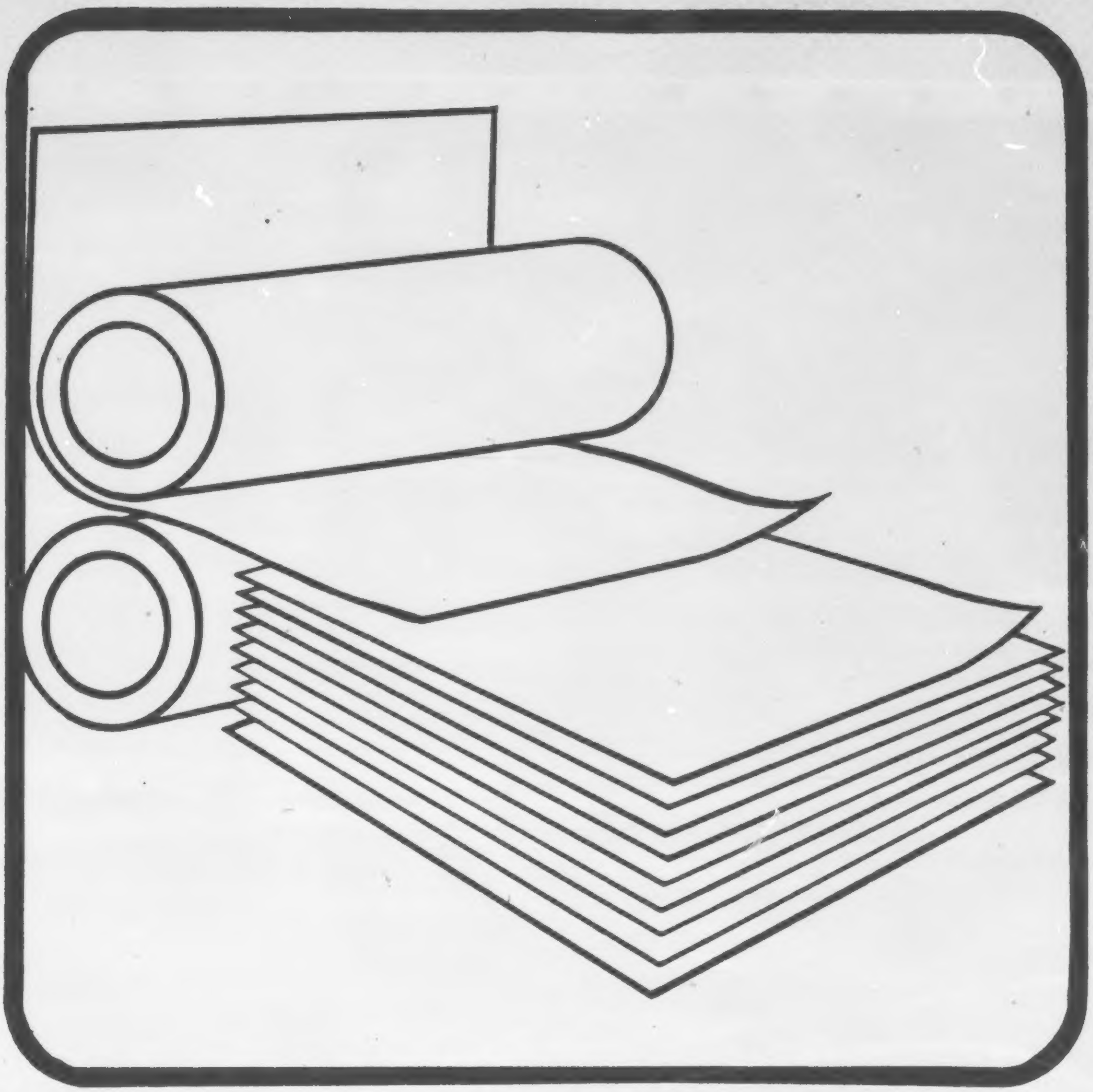
6. SOURCE OF MATERIAL - COIL OR WIRE IS USED IN THE STITCHER: WIRE PRE-CUT STAPLES ARE USED IN STAPLERS.

7. LUBRICATES THE WIRE

8. OVERLAP

9. SEE DEFINITIONS (WORD GUIDES)

10. BECAUSE THERE IS ALREADY A STITCH IN THE CUT-OFF AND ONE IN THE MANDREL.



graphics

unit: FINISHING AND BINDERY

capital area career center

module: 1401 14 016
1401 14 016 3 date: JULY 1977 level:

skill title: STITCHER: ADVANCED OPERATION AND UP-KEEP OF AN ACME-INTERLAKE STITCHER

developed & written by: DEBORAH J. WHITE

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO DO ADVANCED OPERATIONS ON THE STITCHER BY CHANGING THE WIRE GAUGE SIZE AND THREADING, CHANGING THE CUT-OFF DIE, FORMERS AND DRIVERS. YOU WILL BE ABLE TO STITCH THE MINIMUM AND MAXIMUM SIZES POSSIBLE, TO LUBRICATE, MAINTAIN AND ADJUST ALL COMMON PROBLEMS.

IN ORDER TO DO THIS YOU WILL NEED:

ACME-INTERLAKE STITCHER

INSTRUCTION BOOKLET FOR ACME-INTERLAKE STITCHER

WE WILL KNOW YOU CAN DO IT WHEN:

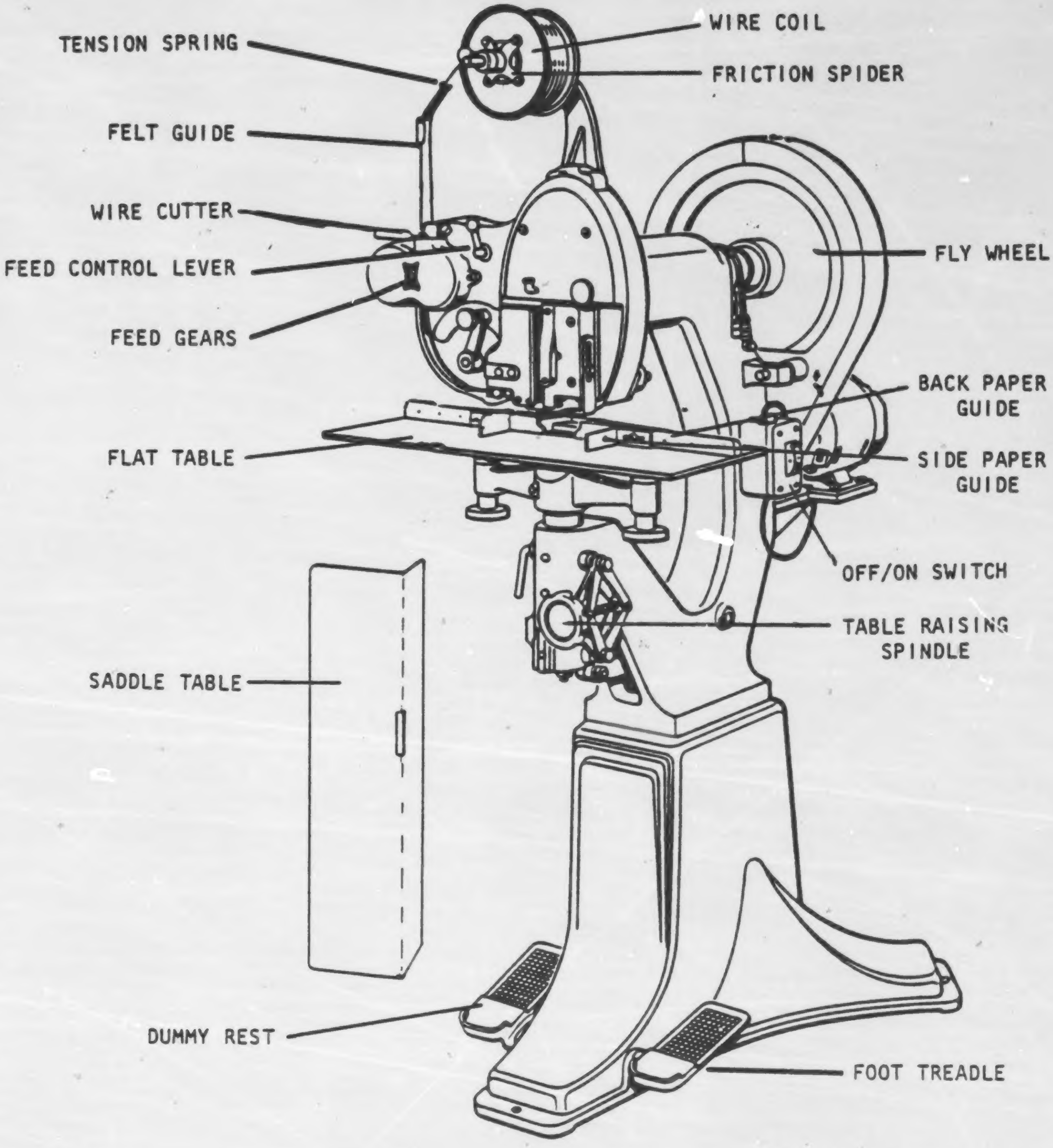
YOU MAINTAIN AND LUBRICATE A STITCHER TO KEEP RUNNING ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. YOU CAN PROPERLY AND QUICKLY CHANGE THE WIRE, DIES, FORMERS AND DRIVERS AS WELL AS WIRE LENGTH AND COMPRESSION ADJUSTMENTS TO PRODUCE NEAT, UNIFORM SOLID STITCHES OF THE CORRECT SIZE (ACCORDING TO TRADE STANDARDS).

A TAPE OF THIS MODULE IS AVAILABLE.

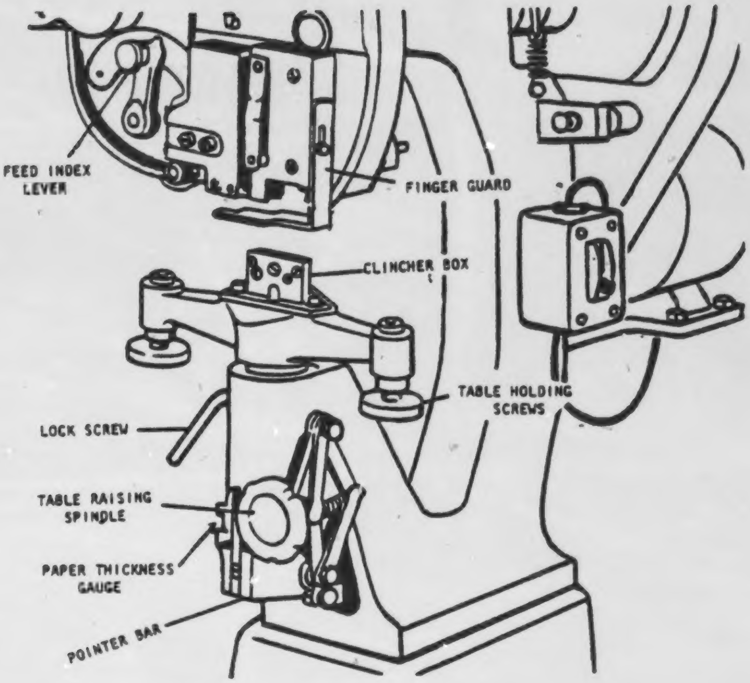
INFORMATION

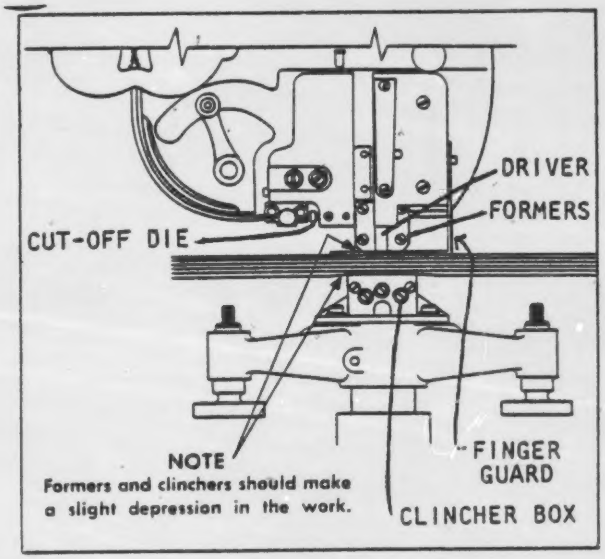
OBTAIN AND READ THE ENTIRE INSTRUCTION BOOK FOR THIS STITCHER. YOU MUST HAVE COMPLETED MOD #1401 14 015 BEFORE STARTING THIS. REVIEW THE BASIC OPERATIONS IN THAT MOD. LOOK OVER THE DRAWINGS ON THE NEXT TWO PAGES AND REVIEW THE PARTS.

INFORMATION


TENSION SPRING
WIRE COIL
FRICTION SPIDER
FELT GUIDE
WIRE CUTTER
FEED CONTROL LEVER
FEED GEARS
FLY WHEEL
BACK PAPER GUIDE
FLAT TABLE
SIDE PAPER GUIDE
OFF/ON SWITCH
TABLE RAISING SPINDLE
SADDLE TABLE
DUMMY REST
FOOT TREADLE

INFORMATION


FEED INDEX LEVER
FINGER GUARD
CLINCHER BOX
TABLE HOLDING SCREWS
LOCK SCREW
TABLE RAISING SPINDLE
PAPER THICKNESS GAUGE
POINTER BAR


DRIVER
FORMERS
CUT-OFF DIE
FINGER GUARD
CLINCHER BOX

NOTE
Formers and clinchers should make a slight depression in the work.

JOB STEPS

1. REVIEW THE DRAWINGS IN THIS MOD. READ ALL THE INSTRUCTION BOOK BEFORE YOU DO STEP 2.

2. NOW, FOLLOWING THE INSTRUCTION BOOK: SET UP THE STITCHER TO STITCH JUST TWO SHEETS USING:

    - #25 ROUND WIRE
    - ROUND HOLE CUT-OFF DIE
    - #25 FORMERS
    - #25 DRIVERS
    - MINIMUM WIRE LENGTH
    - MINIMUM COMPRESSION

3. ASK YOUR INSTRUCTOR TO CHECK YOUR SET-UP.

4. STITCH TWO SHEETS OF 8 1/2" X 11" PAPER.

5. SHOW YOUR INSTRUCTOR YOUR STITCH.

6. SET UP THE STITCHER TO STITCH APPROXIMATELY 3/4" OF PAPER (2 CM) USING:

    - #20-25 FLAT WIRE
    - SLOT CUT-OFF DIE
    - #20-25 FORMERS
    - #20-25 DRIVER
    - MAXIMUM WIRE LENGTH
    - APPROPRIATE COMPRESSION

7. ASK YOUR INSTRUCTOR TO CHECK YOUR SET-UP.

8. STITCH ABOUT 100 SHEETS OF 8 1/2" X 11" PAPER.

9. SHOW YOUR INSTRUCTOR THE STITCHED PAPER.

JOB STEPS

10. STUDY UP ON ALL THE COMMON PROBLEMS SHOWN IN THE STITCHER INSTRUCTION BOOK (WHICH YOU CAN KEEP).

11. HAVE THE INSTRUCTOR GIVE A BRIEF ORAL QUIZ ON MAINTENANCE.

12. RETURN THE STITCHER FOR "NORMAL" OPERATION: 100 SHEETS DOUBLE SIDE-STITCHED (STITCH CENTERS 2 1/2" FROM THE ENDS AND 1/4" FROM BOUND SIDE). LEAVE THE LARGER SIZE CUT-OFF DIE, FORMERS AND DRIVER ON THE STITCHER AND USE THE #25 WIRE. REMEMBER --YOU CAN USE LARGER DIES, FORMERS AND DRIVER FOR SMALL WIRE BUT NEVER SMALL PARTS FOR LARGE WIRE.

13. WIPE A VERY THIN LAYER OF OIL OVER THE ENTIRE MACHINE.

14. CLEAN THE CHROME TABLES WITH PUTZ IF NECESSARY.

15. THEN WAX THE CHROME WITH PASTE WAX.

16. SWEEP THE FLOOR AND NEATLY RETURN ALL TOOLS AND PARTS TO THEIR DRAWERS.

17. HAVE YOUR INSTRUCTOR CHECK ALL YOUR WORK.

graphics

unit: FINISHING AND BINDERY

capital area career center

1401 14 017
module: 1401 14 017 3 **date:** JULY 1977 **level:** II

skill title: DRILL: BASIC OPERATION OF A CHALLENGE POWER DRILL

developed & written by: DEBORAH J. WHITE

visuals by: MAX LITTLE

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO USE A POWER PAPER DRILL TO DRILL HOLES.

IN ORDER TO DO THIS YOU WILL NEED:

CHALLENGE POWER PAPER DRILL
DRILL BITS
BASIC TOOLS
PRACTICE PAPER PADS (4" X 5")
SLIDE/TAPE

WE WILL KNOW YOU CAN DO IT WHEN:

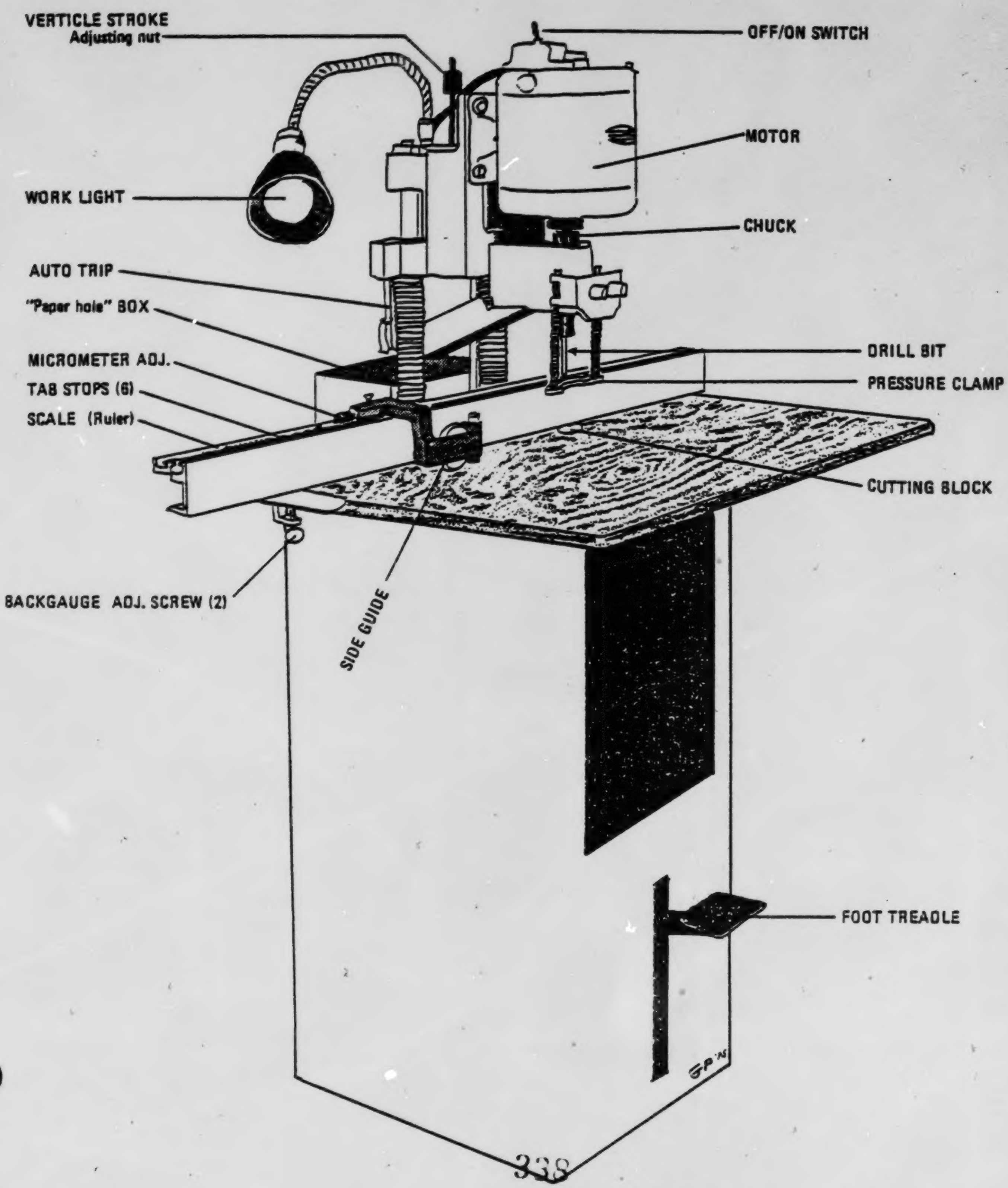
YOU HAVE SET UP AND RUN THE POWER DRILL SO WELL THAT YOUR STOCK IS DRILLED STRAIGHT AND EVEN WITHIN 1 MM -- AND IS FREE OF BURNS OR WAX STAINS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

STUDY THE PICTURE BELOW AND LEARN THE PARTS OF THE CHALLENGE POWER DRILL.

The entire upper assembly (Drill bit, Chuck, Motor, etc.) is called the HEAD or sometimes SPINDLE assembly.


VERTICLE STROKE Adjusting nut
OFF/ON SWITCH
MOTOR
WORK LIGHT
CHUCK
AUTO TRIP
"Paper hole" BOX
DRILL BIT
MICROMETER ADJ.
PRESSURE CLAMP
TAB STOPS (6)
SCALE (Ruler)
CUTTING BLOCK
BACKGAUGE ADJ. SCREW (2)
SIDE GUIDE
FOOT TREADLE
GP '85

WORD GUIDE

AUTOMATIC - WORKS ON ITS OWN, WITHOUT HELP

TRIP - RELEASE

REMOVE - TAKE OUT OR OFF

INSERTING - PUTTING ONE THING INSIDE ANOTHER; PUTTING IN

TAPERED - SLIMMED DOWN; ANGLED

SNUG - TIGHT

INFORMATION

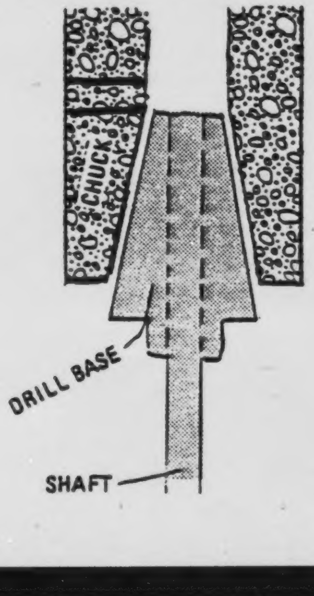
NOW STUDY THE FOLLOWING INFORMATION. REFER BACK TO THE PICTURE ON PAGE 3. THIS WILL HELP YOU LEARN THE PARTS OF THE CHALLENGE POWER DRILL, AND TO LEARN HOW TO SET UP AND USE IT.

TO SET THE FEED TAB STOPS, RELEASE THE TAB STOPS WITH THE ALLEN HEX WRENCH FROM TOOLS THAT COME WITH THE MACHINE. THE TAB STOPS ARE THE BACKGAUGE (SOME MACHINES USE A THUMBSCREW ON THE TAB STOPS). MOVE TO THE PLACE YOU WANT BY LOOKING AT THE SCALE ON THE BACKGAUGE. THE FRONT OF THE TAB STOP (TO YOUR RIGHT) SHOULD BE SET JUST TO THE SCALE MARK.

TO CENTER THE HOLES YOU CAN ADJUST THE THUMBSCREW (MICROMETER ADJUSTMENT) ON THE SIDE GAUGE. USUALLY YOU SET IT ABOUT 1/8" (3 MM) OUT FROM THE BLOCK AND LOCK IN PLACE BY THE FINGER SCREW. TRIP THE LATCH TO MOVE THE SIDE GUIDE TO THE NEXT STOP.

THERE IS AN AUTOMATIC TRIP (REAR LEFT) WHICH WILL RELEASE THE SIDE GUIDE EACH TIME THE HEAD COMES DOWN SO THE PILE CAN BE QUICKLY MOVED TO THE NEXT STOP. TO SET THIS TRIP, LOCK THE THUMBSCREW WITH THE HEAD IN THE UP POSITION. NORMALLY, THOUGH, THE TRIP IS NOT SET.

REMOVE THE DRILL BITS BY INSERTING THE DRILL DRIFT (FROM BEHIND THE BACKGAUGE) IN THE CHUCK HOLE AND MOVING THE END SLIGHTLY UPWARD TO RELEASE THE BIT FROM THE CHUCK. TO INSERT, GENTLY SLIDE THE TAPERED DRILL BASE INTO THE CHUCK FOR A SNUG FIT. THE DOWNWARD PRESSURE WHILE DRILLING WILL LOCK THE BASE IN PLACE. YOU DON'T HAVE TO REMOVE CHIPS FROM THE SHAFT WHEN CHANGING. ALL CHALLENGE DRILL BITS HAVE THE SAME SIZE BASE, BUT THE SHAFT LENGTH DIFFERS.



WORD GUIDE

"SLAM" - CLOSE OR HIT DOWN HARD

LIFT - AN EASY TO HANDLE AMOUNT OF PAPERS 1-2 INCHES THICK OR 100 TO 200 SHEETS OF PAPER

INFORMATION

EVERY TIME A DIFFERENT DRILL IS INSERTED, YOU MUST ADJUST THE VERTICAL STROKE. THE THUMBSCREW (TOP REAR) LOCKS THE VERTICAL STROKE ADJUSTING NUT AND THE POSITION OF THIS NUT CONTROLS THE LOW POSITION OF THE DRILL. FOR OUR CAREER CENTER WORK WE WILL NOT CUT INTO THE WOODEN CUTTING BLOCK; WE WILL ALWAYS USE A PIECE OF SCRAP CHIPBOARD (GREY THICK HEAVY PAPER). THE LOWEST POSITION OF THE DRILL BIT, WITH THE FOOT TREADLE DOWN COMPLETELY AND THE MOTOR ON, SHOULD BE JUST CUTTING INTO THE CHIPBOARD SLIGHTLY, BUT WELL ABOVE THE CUTTING BLOCK (1 MM). BE SURE TO LOCK THE THUMBSCREW ON THE ADJUSTING NUT.

TRY NOT TO DRILL TOO SLOWLY. THE SPINDLE (DRILL) SHOULD BE BROUGHT DOWN AS QUICKLY AS THE DRILL WILL ALLOW BY EASILY CUTTING THROUGH THE PAPER. WHEN THE HOLES ARE DRILLED, RETURN THE DRILL TO NORMAL AS QUICKLY AS POSSIBLE (WITHOUT LETTING IT "SLAM"). THE DRILL WILL BECOME HOT (ESPECIALLY ON HARDER PAPER) AND BURN (SMOKE) THE STOCK. TO EASE DRILLING, CUT DOWN BINDING AND STOP THE MACHINE FROM HEATING UP TOO MUCH. USE THE SPECIAL LUBRICANT STICK (OR BEESWAX). TO COAT A WORN DRILL, YOU NEED ONLY TOUCH THE LOWER ONE INCH. USE ONLY A LITTLE LUBRICANT SO IT WON'T "SPRAY" OR STAIN THE STOCK. A LOUD SQUEAK WHILE DRILLING USUALLY MEANS LUBRICATION IS NEEDED, OR THAT THE DRILL MAY BE DULL (WHEN THE MACHINE IS STOPPED, YOU CAN FEEL A "BURR" ON THE OUTSIDE BY MOVING YOUR FINGER DOWN THE SHAFT).

A 1/4" DRILL CAN DRILL A LIFT OF PAPER 2" THICK, IF THE PAPER IS HELD TIGHTLY. YOU SHOULD ALWAYS HOLD THE STOCK TO THE INSIDE CORNER (SIDE GUIDE AND BACKGAUGE CORNER) WHILE YOU ARE DRILLING.

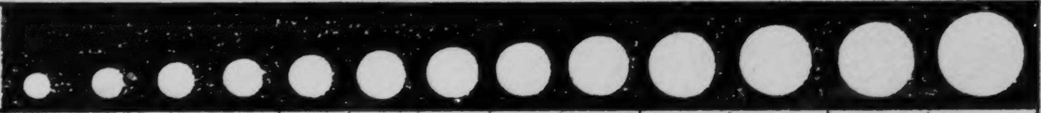
TO ADJUST THE POSITION OF THE HOLE FROM THE EDGE OF THE SHEET, MOVE THE BACKGAUGE BY RELEASING THE THUMBSCREWS AT EACH END OF THE BACKGAUGE, UNDER THE WOODEN TABLE. THE MOST COMMON POSITION IS 3/8" FOR STANDARD 1/4" HOLES. ALWAYS USE TWO SCALES FOR STRAIGHTNESS. DRILL POSITION IS ALWAYS MEASURED TO THE DEAD-CENTER OF THE HOLE.

WORD GUIDE

HONE - USED TO SHARPEN DRILLS AND CUTTING TOOLS

INFORMATION

THE DRILL BITS THEMSELVES ARE MADE UP OF A TAPERED BASE, A HOLLOW SHAFT AND A CUTTING EDGE. THE REMOVED PAPER CHIPS WILL BE FORCED UP THROUGH THE DRILL AND DOWN THE CHUTE TO THE CHIP BOX. DRILLS COST ABOUT $6.00 EACH AND CAN BE FOUND IN THESE SIZES:



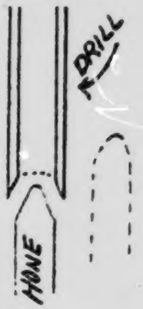
ORDER BY STYLE AND SIZE													
For hole size:	1/8"	5/32"	3/16"	7/32"	1/4"	17/64"	9/32"	5/16"	11/32"	3/8"	13/32"	7/16"	1/2"
Will drill a pile of paper:	5/8"	1 1/8"	1 3/8"	1 5/8"	2"	2"	2"	2"	2"	2"	2"	2"	2"

NOTE: ALWAYS LEAVE THE POWER DRILL IN THE "NORMAL" POSITION, WHICH IS SET-UP FOR STANDARD, 3-HOLE DRILLING BECAUSE THIS DRILL SETTING DOES MANY DIFFERENT JOBS.

SHARPENING

THE DRILLS MAY BE SHARPENED EITHER ON THE MACHINE WITH A HONE OR IN A SPECIAL DRILL-SHARPENER. TO CLEAR THE DRILL OF CHIPS, REMOVE IT FROM THE MACHINE AND INSERT A POINTED METAL PICK IN THE BASE END TO FORCE OUT THE CHIPS. THE CUTTING EDGE IS VERY SHARP SO ALWAYS HOLD THE DRILL BY THE BASE AS YOU TAP AND MOVE THE PICKER AROUND TO FORCE OUT THE CHIPS.

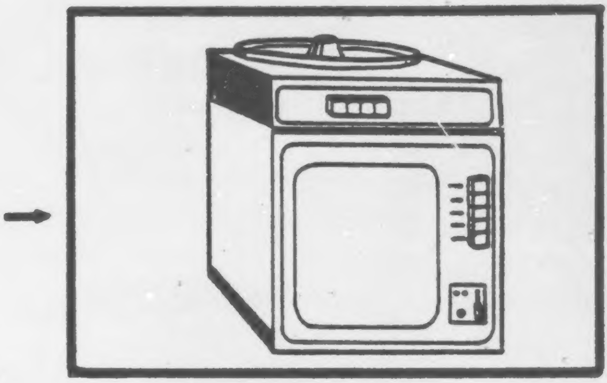
THE CARBORUNDUM SHARPENING HONE IS ABOUT 2" LONG AND HAS TWO POINTS. THE CARBORUNDUM HONE IS KEPT WITH THE TOOLS BEHIND THE BACKGAUGE. TO SHARPEN THE DRILL, PUT IT IN THE CHUCK WITH THE MACHINE RUNNING. THEN, HOLD THE HONE WITH BOTH HANDS SQUARELY ON THE TABLE AND GENTLY INSERT IT IN THE CUTTING EDGE END FOR ONLY 1 - 2 SECONDS. REMOVE THE BURN ON THE OUTSIDE AND HOLD THE HONE FLAT ATAINST THE OUTSIDE EDGE FOR 1 - 2 SECONDS (SEE THE PICTURE). BE SURE TO WATCH YOUR FINGERS AS THE CUTTING EDGE IS VERY SHARP. IN USING THE HOLLOW DRILL SHARPENER, SIMPLY INSERT THE DRILL IN THE UNIT HOLDER, INSERT IN THE CYLINDER AND TURN THREE TIMES. THE DRILLS NORMALLY NEED RESHARPENING ABOUT EVERY 20 MINUTES OF CONSTANT WORKING (200 DRILLINGS, 2" DEEP EACH).



JOB STEPS

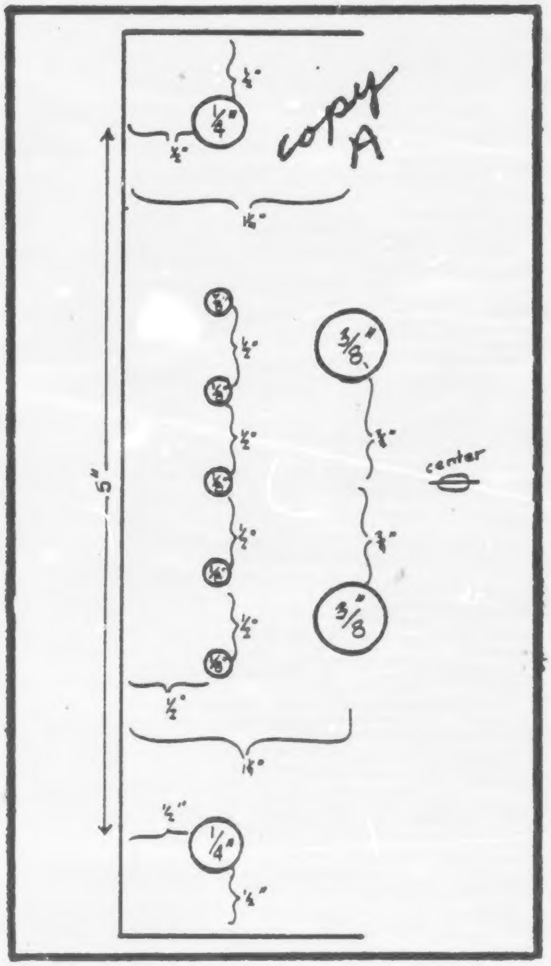
1. TAKE ALL MATERIALS AND EQUIPMENT TO YOUR WORK AREA.

2. WATCH AND LISTEN TO THE SLIDE/TAPE PRESENTATION ON POWER DRILL OPERATION.



3. GET SIX 5 MM THICK SCRATCH PADS. CHECK TO SEE IF YOU HAVE ALL YOUR TOOLS.

4. SEE HOW THE HOLES ARE DRILLED IN THESE EXAMPLES.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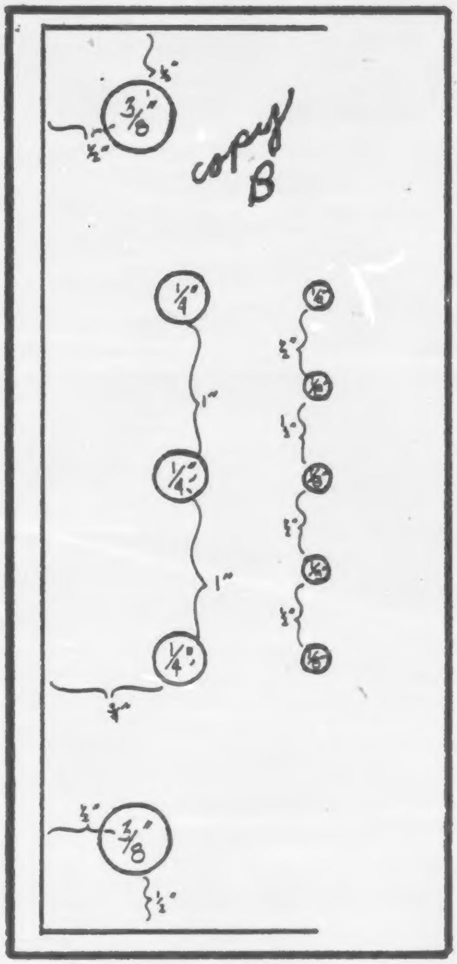
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WORD GUIDE

PROJECT - JOB; ATTEMPT

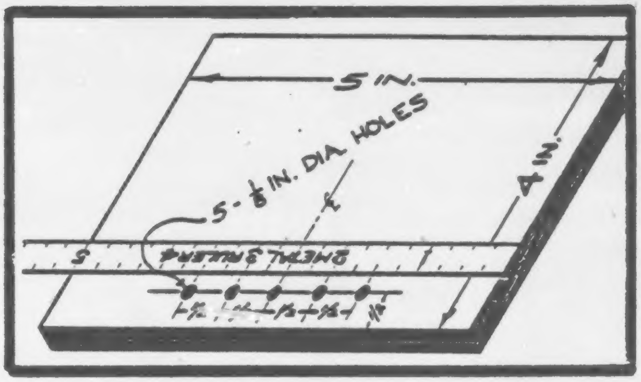
MULTIPLE - MORE THAN ONE

JOB STEPS

5. USE COPY A FOR YOUR FIRST PROJECT.

NOTE: BE SURE YOUR PADS ARE EXACTLY 4" X 5". WE WILL CALL THE 5" EDGE THE "SIDE" AND THE 4" EDGE THE "END".

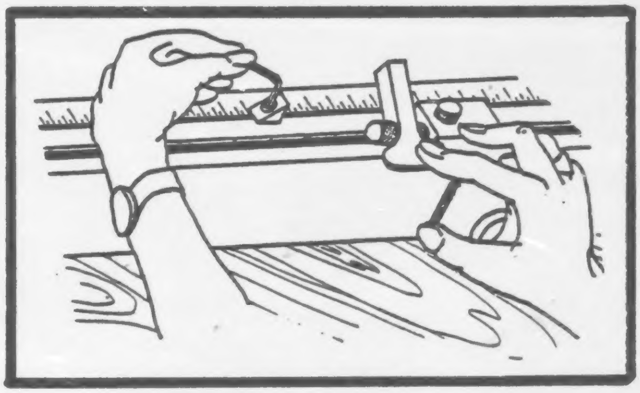
6. MAKE YOUR MEASUREMENTS FOR FIVE 1/8" HOLES IN COPY A. ALWAYS MEASURE TO THE EXACT CENTER OF THE HOLE, USING A METAL RULER.
REMEMBER: ALL FIVE HOLES SHOULD BE 1/2" APART, 1/2" FROM THE SIDE. THE CENTER HOLES SHOULD BE EXACTLY 1/2 WAY ACROSS THE 5 INCH WIDTH (2 1/2").



7. DRILL ONE HOLE IN ONE PAD.

8. IF THE HOLE WAS RIGHT, DRILL THE OTHER 4 HOLES.

NOTE: FOR MULTIPLE HOLES, SET THE TAB STOPS.



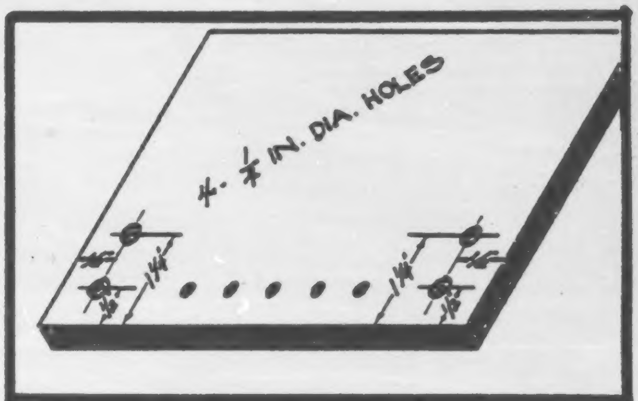
9. IF ALL FIVE HOLES ARE NEATLY DRILLED AND IN THE RIGHT PLACE . .

10. WITH THE TAB-STOPS SET, DRILL ALL SIX PADS, ONE OR TWO AT A TIME. THE BIT SHOULD ONLY BITE SLIGHTLY INTO THE BASE CHIPBOARD.

JOB STEPS

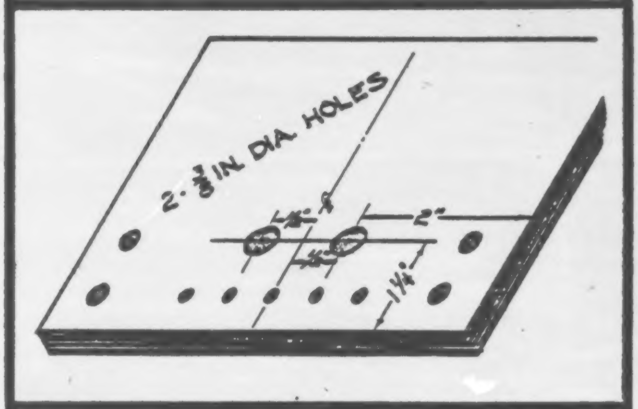
11. NOW DRILL A 1/4" HOLE EXACTLY 1/2" FROM THE SIDE AND 1/2" IN FROM EACH END (TWO HOLES).

12. THEN DRILL A 1/4" HOLE EXACTLY 1 1/4" FROM THE SIDE AND 1/2" IN FROM EACH END (TWO HOLES).



13. DRILL TWO 3/8" HOLES EXACTLY 1 1/4" FROM THE SIDE AND 1/2" OUT FROM THE CENTER LINE, TOWARDS THE ENDS (2" FROM THE ENDS).

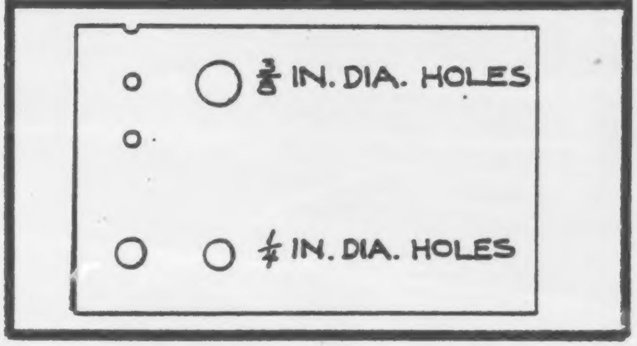
NOTE: BE SURE TO DOUBLE-CHECK DRILL BIT DEPTH EVERY TIME YOU CHANGE BITS.



14. DOUBLE-CHECK YOUR WORK:

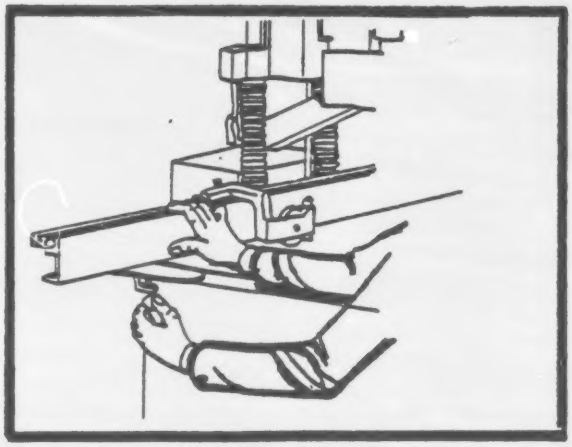
    A. REMOVE ONE SHEET FROM A PAD. FOLD IT IN HALF BY BRINGING THE END EDGES TOGETHER SO THE 1/4" HOLES LINE UP. IF YOU ARE MORE THAN 1 MM OFF, RE-DO THIS PROJECT.

    B. EXAMINE ALL SIX PADS TOGETHER. CAN YOU SEE THROUGH ALL THE HOLES? IF NOT, YOUR DRILLING IS OFF: RE-DO THE PROJECT.



15. NOW SET UP FOR THE MOST COMMON DRILLING: STANDARD 3-HOLE. USE A 1 CM LIFT OF SCRAP 8 1/2" X 11" PAPER.

16. SET THE BACK GAUGE FOR 3/8".



WORD GUIDE

CREASE - FOLD

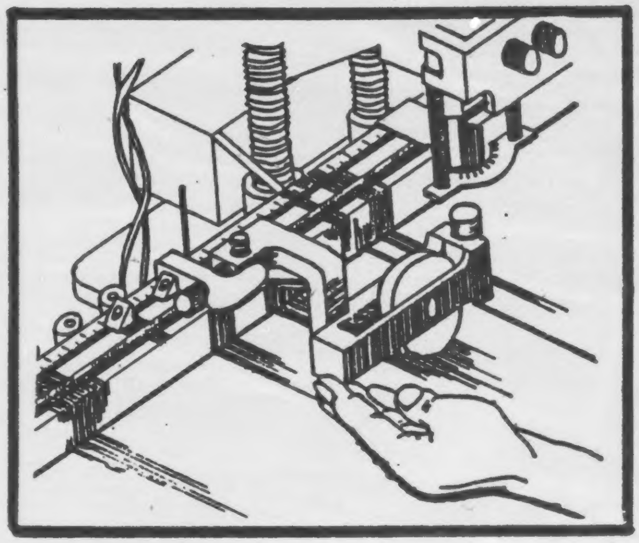
ALIGN - LINE UP IN THE RIGHT PLACE

JOB STEPS

17. SET THE TAB STOPS FOR 1 1/4", 5 1/2", AND 9 3/4".

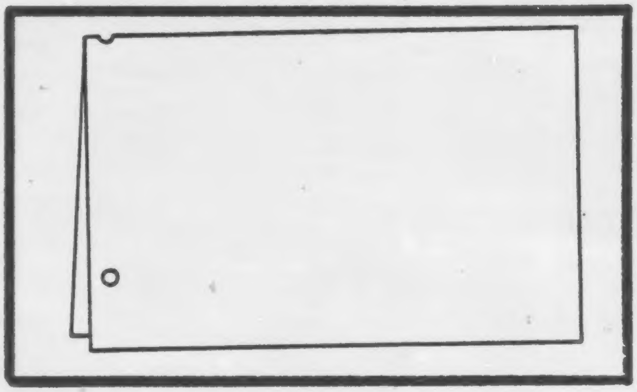
18. FOLD A SLIGHT CREASE IN THE CENTER OF THE 11" SIDE OF A SHEET OF PAPER, AT 5 1/2".

19. SET THE SIDE GUIDE AT THE 5 1/2" TAB STOP WITH THE CREASED SHEET ON THE BED AND BRING DOWN THE 1/4" DRILL BIT TO SEE IF IT IS CENTERED ON THE CENTER CREASE. ADJUST WITH THE MICRO ADJUSTMENT IF NECESSARY. →



20. DRILL A SINGLE SHEET WITH THIS STANDARD 3-HOLE SET UP. DRILL SO THE 1/4" BIT ONLY SLIGHTLY BITES INTO THE BASE CHIPBOARD.

21. FOLD THIS SHEET IN HALF TO SEE IF THE TWO END HOLES ALIGN PERFECTLY AND THE CENTER HOLE IS EXACTLY "IN HALF". ADJUST IF NEEDED. THIS IS THE "NORMAL" PLACE FOR OUR DRILL. →



22. DRILL YOUR LIFT OF PAPER.

23. HAVE THE INSTRUCTOR/MANAGER CHECK YOUR WORK AND BRIEFLY REVIEW. CLEAN UP THE AREA. BE SURE TO BRUSH OFF ANY LOOSE "HOLES" AND TO SWEEP THE AREA. RETURN ALL TOOLS AND BITS. ALWAYS LEAVE THE POWER DRILL IN THE "NORMAL" POSITION, WHICH IS SET-UP FOR STANDARD 3-HOLE DRILLING BECAUSE THIS COMMON SETTING DOES MANY JOBS.

graphics

unit: FINISHING AND BINDERY

capital area career center

module: 1401 14 018
1401 14 018 3 date: JULY 1977 level:

skill title: DRILL: ADVANCED OPERATION - SLITTING, SLOTTING, AND ROUND CORNERING

developed & written by: DEBORAH J. WHITE

visuals by: MAX LITTLE

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO SET UP THE DRILL TO DO: (1) SLITTING, (2) SLOTTING, (3) ROUND CORNERING.
2. HOW TO KEEP THE DRILL IN GOOD RUNNING ORDER.

IN ORDER TO DO THIS YOU WILL NEED:

SLITTING ATTACHMENT
SLOTTING ATTACHMENT
CORNERING ATTACHMENT
SCRATCH PADS
CLIPBOARD
BEESWAX
PARTS/TOOL KIT
INSTRUCTION BOOK: CHALLENGE JF DRILL
CHALLENGE POWER DRILL

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN SET UP THE POWER DRILL TO SLIT, SLOT, AND ROUND CORNER QUICKLY AND EASILY.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

SLITTING - DRILLING A HOLE AND THEN CUTTING FROM THE HOLE TO THE EDGE OF THE SHEET OF PAPER.

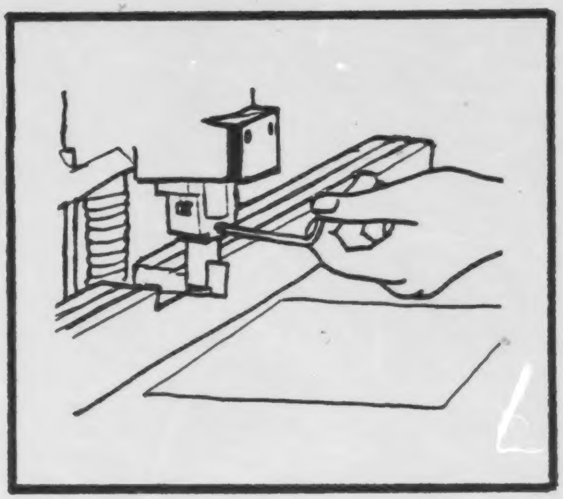
SLOTTING - DRILLING A HOLE AND THEN USING SLOTTING KNIVES TO CUT (PUNCH OUT) AN OPEN SLOT FROM THE HOLE TO THE EDGE OF THE SHEET OF PAPER.

JOB STEPS

1. READ AND DO MODULE 1401 14 017, IF YOU HAVE NOT ALREADY DONE SO.

2. READ THE INSTRUCTION BOOK: CHALLENGE JF DRILL. FIND THE BOOK IN THE INSTRUCTION MANUAL FILE DRAWER.

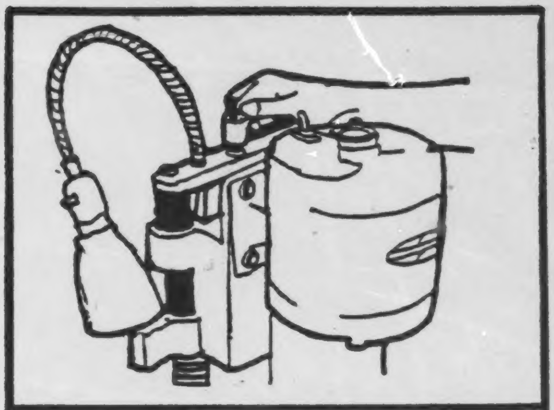
3. TAKE ALL EQUIPMENT TO THE FINISHING AREA.



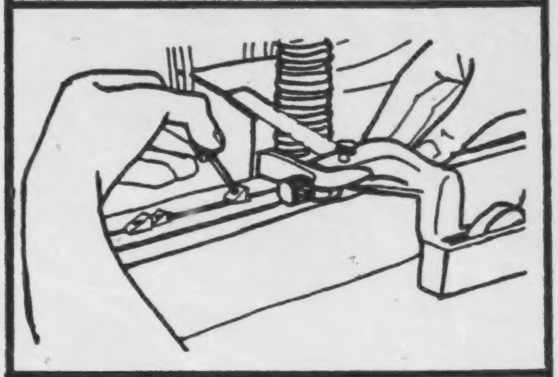
4. TO BEGIN SLITTING, SET UP THE POWER DRILL WITH THE SLITTING ATTACHMENT.

JOB STEPS

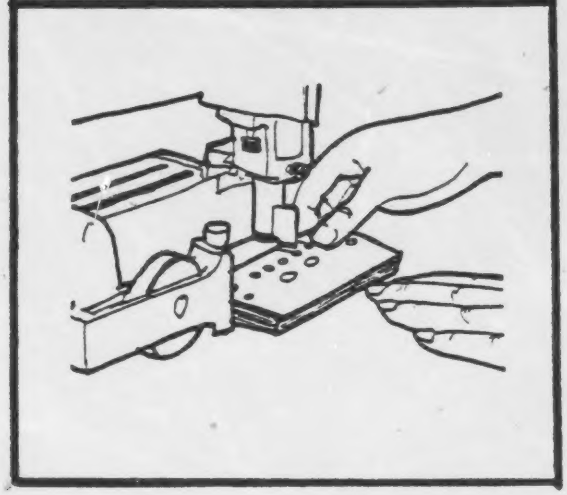
5. ADJUST THE VERTICAL STROKE (ASK AN ADVANCED STUDENT TO SHOW YOU HOW TO DO THIS).



6. SET THE BACK AND SIDE GUIDES SO THAT YOU WILL SLIT THE HOLES ON THE LONG SIDE OF THE SCRATCH PADS.



7. SLIT THE HOLES ON ALL THE PADS (LONG SIDE).



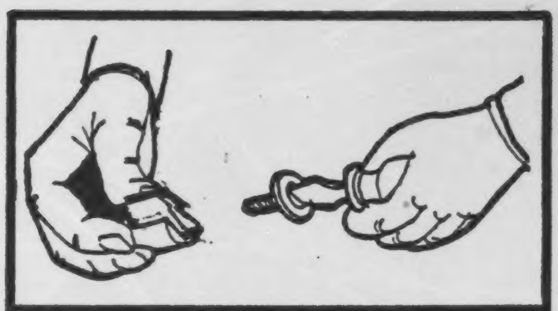
8. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK. THEN, GO ON TO JOB STEP #9.

WORD GUIDE

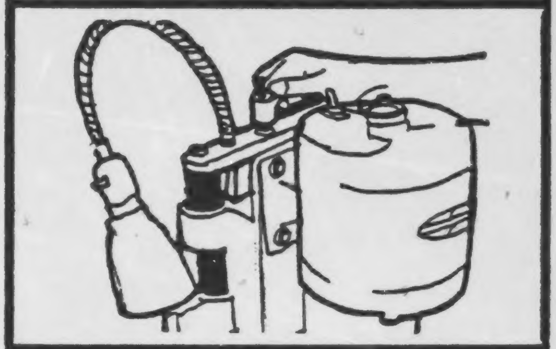
ROUND CORNERING - PUNCHING OUT THE CORNER OF A SHEET OR LIFT.

JOB STEPS

9. TO BEGIN SLOTTING, SET UP THE DRILL WITH THE SLOTTING ATTACHMENT (ASK AN ADVANCED STUDENT TO CHECK THIS).

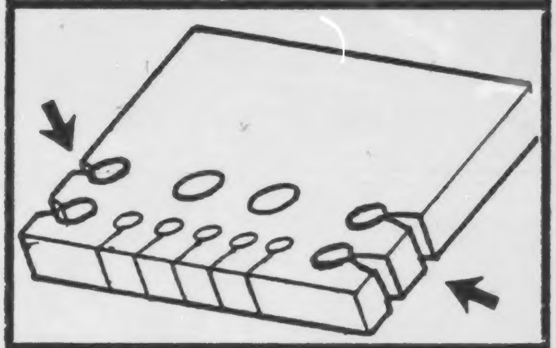


10. ADJUST THE VERTICAL STROKE (ASK AN ADVANCED STUDENT TO CHECK THIS).



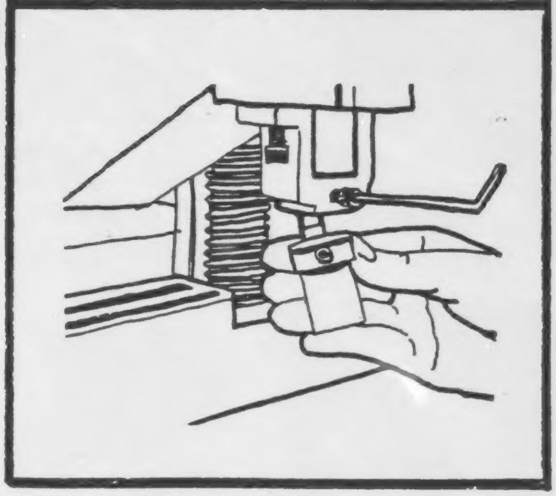
11. SET THE BACK AND SIDE GUIDES SO THAT YOU WILL SLOT THE HOLES ON THE SHORT SIDE OF THE SCRATCH PADS.

12. SLOT THE HOLES ON ALL THE PADS (SHORT SIDE).



13. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK. THEN, GO ON TO JOB STEP #14.

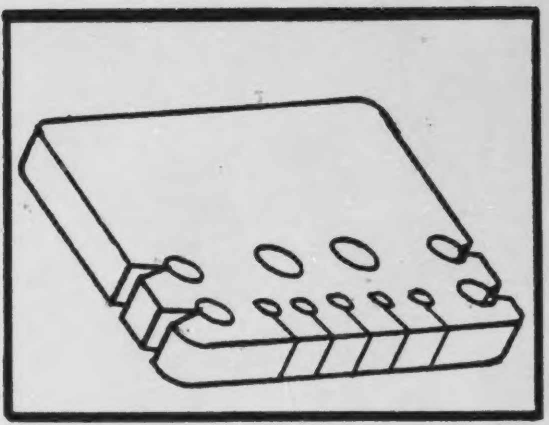
14. TO BEGIN ROUND CORNERING, SET UP THE DRILL WITH THE ROUND CORNERING ATTACHMENT.



JOB STEPS

15. ADJUST THE VERTICAL STROKE.

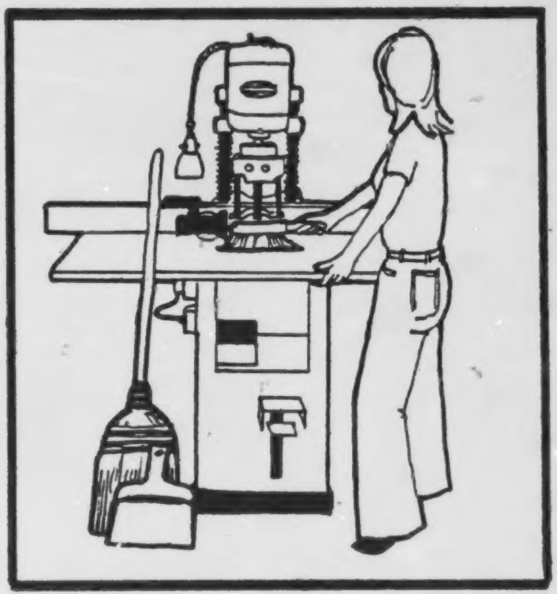
16. SET THE BACK AND SIDE GUIDES FOR ROUND CORNERING ALL 4 CORNERS (ASK AN ADVANCED STUDENT TO SET THE GUIDES).



17. ROUND CORNER ALL FOUR CORNERS OF YOUR SCRATCH PADS (1 CM MAXIMUM).

18. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK. BE READY TO ANSWER QUESTIONS.

19. REPEAT JOB STEPS 4-18 UNTIL YOU CAN DO THEM QUICKLY AND EASILY, WITHOUT THE HELP OF AN ADVANCED STUDENT. ASK QUESTIONS.



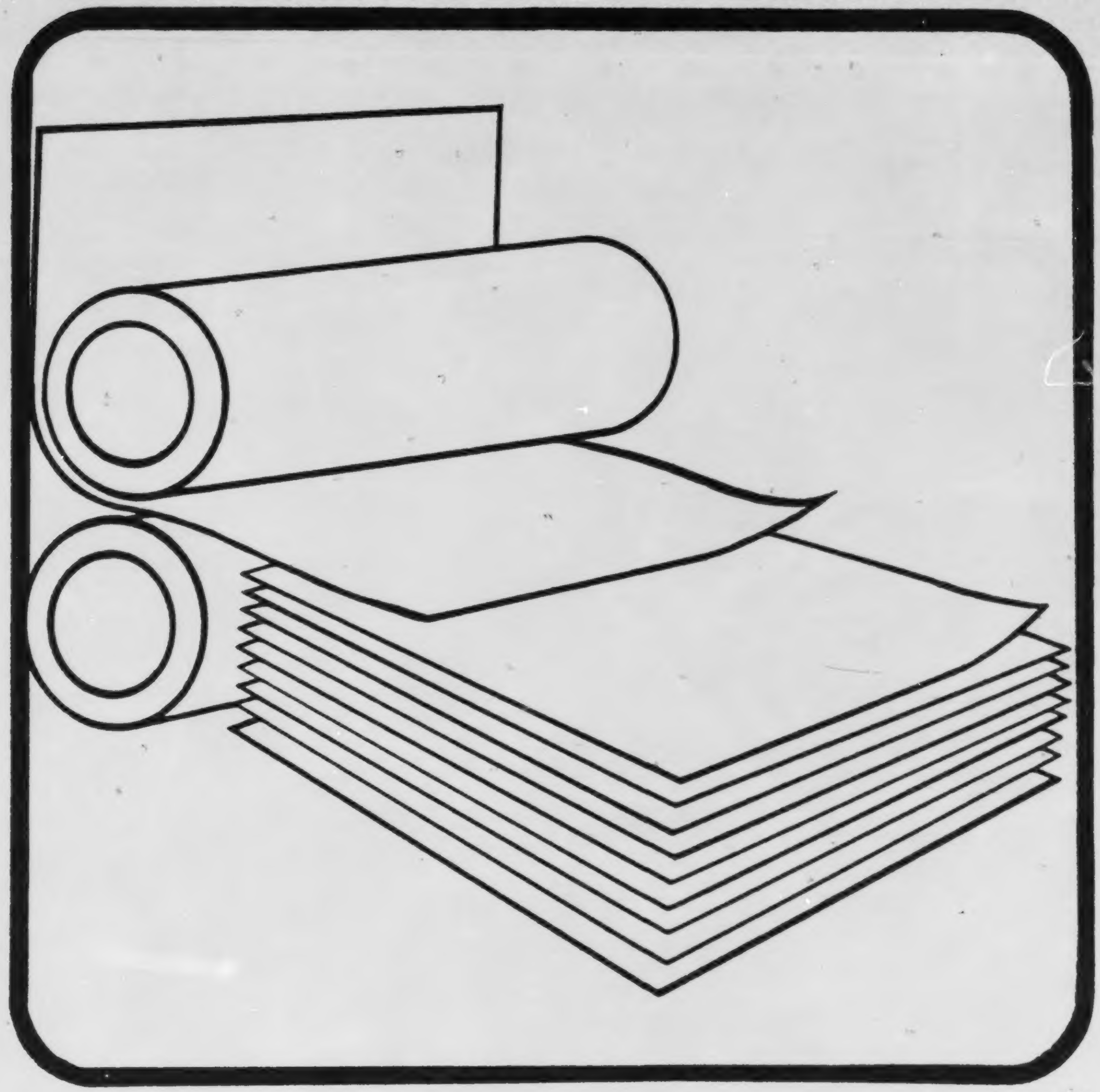
20. CLEAN UP YOUR WORK AREA.

A. BRUSH YOUR FLOOR, THEN SWEEP.

B. RETURN ALL PARTS AND ATTACHMENTS TO THEIR DRAWERS.

C. WAX THE WOOD TABLE IF YOU NEED TO.

D. CLEAN METAL SURFACES (THEN WAX).



graphics

unit: FINISHING AND BINDERY

capital area career center

1401 14 019
module: 1401 14 019 3 date: JULY 1977 level:

skill title: PACKAGING: HAND WRAPPING IN SHRINK PLASTIC

developed & written by: DEBORAH J. WHITE

visuals by: CHUCK KNOCK AND BRUCE BENNETT

WORD GUIDE

SHRINK - TO MAKE SMALLER

FILM - PLASTIC WRAPPING PAPER

SHRINK BOX - AN OVEN FOR SHRINKING SHRINK FILM TO TIGHTEN IT AROUND PACKAGES.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO WRAP A PACKAGE IN SHRINK FILM AND RUN IT THROUGH THE SHRINK BOX.

IN ORDER TO DO THIS YOU WILL NEED:

SHRINK WRAPPING FILM

A PRINTED JOB (12 OR MORE LIFTS)

SHRINK BOX

WE WILL KNOW YOU CAN DO IT WHEN:

THE PRINTED JOB IS WRAPPED NEATLY.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

A SHRINK BOX IS SIMPLY A HEAT TUNNEL WITH A CONVEYOR BELT RUNNING THROUGH IT. A PLASTIC FILM (LIKE SARAN WRAP) IS USED TO WRAP THE PAPER AND THIS LOOSE PACKAGE IS RUN THROUGH THE SHRINK BOX WHERE THE HEAT WILL SHRINK THE PLASTIC SNUG TO THE PAPER.

TOO MUCH HEAT WILL CAUSE BURN HOLES (WHERE THE PLASTIC FILM GETS A HOLE IN IT), TOO LITTLE HEAT WILL NOT SHRINK THE PLASTIC ENOUGH SO THE PACKAGE MUST BE SENT THROUGH THE UNIT AGAIN. MOST SHRINK BOXES USE HEATED FORCED-AIR FOR SHRINKING AND A HEATED PLATE UNDER THE CONVEYOR BELT.

WITH OUR UNIT, WE PULL A SHEET OF THE PLASTIC FILM FROM A ROLL AND TEAR OFF A SQUARE PIECE (12" X 12", 15" X 15" OR 16" X 16"). THE PAPER TO BE WRAPPED IS PLACED IN THE CENTER OF THE PLASTIC (FACE OR TOP DOWN SO THE SEAM OR FILM OVERLAP IS ON THE BOTTOM OF THE FINISHED PACKAGE). THE SIDES ARE FOLDED UP, THEN THE TWO ENDS ARE TUCKED IN. THIS LOOSE PACKAGE IS THEN PLACED ON THE PRE-HEATED CONVEYOR BELT (5 - 10 MINUTE WARM-UP), AND IS DELIVERED OUT THE OTHER END IN SECONDS, TIGHTLY SHRUNK.

ONLY USE ENOUGH PLASTIC TO DO THE JOB - TOO MUCH WILL ADD EXCESSIVE BULK AND HINDER SHRINKING. TRIM OFF ALL EXCESS. A 3-5 CM OVERLAP IS ADEQUATE. USE A LARGE PAIR OF SCISSORS FOR TRIMMING. SOMETIMES A LARGE SHEET CUT IN HALF IS BEST FOR SMALL PACKAGES.

LARGER UNITS USE A HEATED WIRE TO LOOSELY CUT AND SEAL THE PLASTIC FILM. THE PLASTIC FILM COMES IN A VERY LARGE ROLL OF FOLDED PLASTIC (IN HALF WITH THE FOLD AWAY FROM OPERATOR). THE PLASTIC IS PULLED TO THE CUTTING TABLE, THE PAPER TO BE WRAPPED IS PLACED INSIDE THIS FOLDED PLASTIC AND THE HEATED WIRES BROUGHT DOWN TO CUT AND SEAL THE NEAR AND RIGHT SIDES OF THE PLASTIC. THE LEFT SIDE WAS ALREADY SEALED FROM THE CUT BEFORE. THIS VERY LOOSE UNIT IS SLID TO THE LONG CONVEYOR BELT AND GOES THROUGH THE SHRINK TUNNEL. MANY LARGE GROCERY STORES HAVE THIS IDENTICAL UNIT IN THEIR MEAT DEPARTMENT. COST IS ABOUT $2,000.00. THE PRICE OF PLASTIC FILM WILL VARY FROM 1/2¢ TO 2¢ FOR THE AVERAGE PACKAGE.

THE COST OF PLASTIC IS ABOUT THE SAME AS FOR PAPER OR SLIGHTLY LESS. IT IS 3-4 TIMES FASTER TO WRAP IN PLASTIC, LOOKS MUCH NEATER, MAKES THE PACKAGE WATER-PROOF AND BEST OF ALL, ALLOWS YOU TO SEE EXACTLY WHAT IS IN THE PACKAGE (A LABEL IS NOT NECESSARY).

THERE ARE MANY DIFFERENT STYLES AND KINDS OF SHRINK PACKAGING. A COMMON METHOD IS CALLED VACUUM WRAPPING WHERE A PART OR ITEM IS LAID ON A PIECE OF CARDBOARD WITH HUNDREDS OF SMALL HOLES IN IT, THE PLASTIC FILM IS PLACED OVER THE ITEM, THE AIR IS SUCKED OUT THROUGH THE SMALL HOLES AND THE PLASTIC IS HEATED TO SHRINK AND HARDEN OVER THE ITEM. LOOK AT MANY PACKAGES NEXT TIME YOU ARE SHOPPING TO FIGURE OUT HOW THEY ARE WRAPPED.

INFORMATION

PACKAGING IS IMPORTANT IN THE GRAPHICS INDUSTRY. THE FIRST THING A PERSON WILL SEE IS THE PACKAGE AND HOW IT IS WRAPPED. ALL OF US HAVE BOUGHT THINGS BECAUSE OF AN ATTRACTIVE PACKAGE, AND THEN SEEN WHAT WAS INSIDE WAS SLIGHTLY DIFFERENT.

A PACKAGE MUST BE FUNCTIONAL. IT MUST PROTECT THE CONTENTS WELL, UNTIL IT IS OPENED. IF THE PACKAGE IS TO BE SHIPPED GREAT DISTANCES, IT MUST SURVIVE AND ARRIVE IN GOOD CONDITION.

A PACKAGE MUST IDENTIFY ITS CONTENTS. CLEAR PLASTIC DOES THIS WELL. WITH PAPER OR A CARDBOARD BOX YOU MUST TYPE A LABEL TELLING THE CONTENTS, NUMBER, NAME, ETC.

PLASTIC PACKAGES USUALLY CAN'T BE SHIPPED OR DELIVERED WELL UNLESS THE PLASTIC IS VERY THICK. MOST JOBS WILL HAVE SEVERAL PACKAGES IF WRAPPED IN PLASTIC. TO GET THE JOB READY FOR DELIVERY, THESE PACKAGES SHOULD BE WRAPPED IN A SINGLE PAPER PACKAGE OR CAREFULLY PACKED IN A CARDBOARD BOX. IF BOXED, BE SURE THE PLASTIC PACKAGES CAN'T SLIDE AROUND IN THE LARGE BOX - STUFF THE OPEN AREA IN THE BOX WITH OLD NEWSPAPERS OR SCRAP. THE EASIEST WAY TO IDENTIFY A LARGE PACKAGE OR BOX IS TO TAPE AN ACTUAL SAMPLE OF THE PRINTED JOB ON THE LARGE PACKAGE OR BOX AND WRITE THE NUMBER ON IT. BE SURE THERE ARE SAMPLES OF THE JOB IN THE JOB ENVELOPE.

NOW, WATCH THE SLIDE TAPE ON PACKAGING WITH SHRINK WRAP AND STRETCH WRAP. THEN DO THE JOB STEPS.

WORD GUIDE

PRE-HEAT - TO HEAT BEFORE YOU ARE READY TO USE IT.

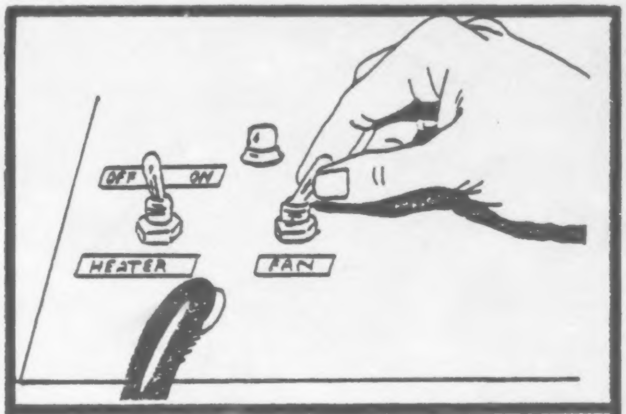
THERMOSTAT - TEMPERATURE CONTROL DEVICE.

JOB STEPS

1. TAKE A PRINTED JOB WITH A DOZEN (12) OR MORE LIFTS TO THE FINISHING AREA WHERE YOU WILL WORK.

2. PRE-HEAT THE SHRINK BOX:

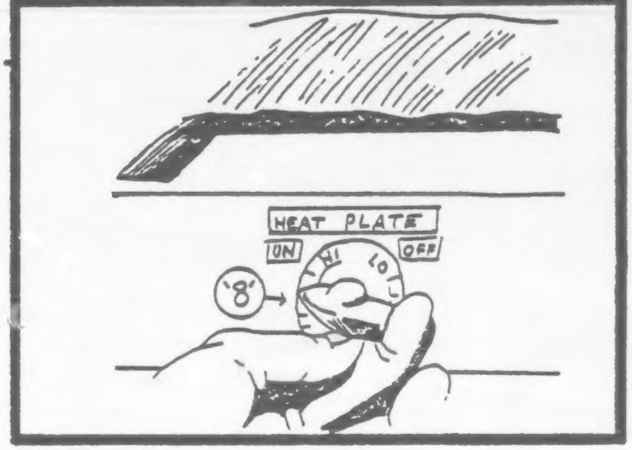
A. TURN THE SWITCH ON THE UPPER HOOD TO "FAN" FOR A FEW SECONDS, THEN TO "HEAT".



B. TURN THE COVEYOR BELT SWITCH "ON".

C. SET THE HEAT PLATE THERMOSTAT FOR "#8".

NOTE: SWITCHES MUST BE TURNED ON IN A, B, C, ORDER, AS LISTED ABOVE.



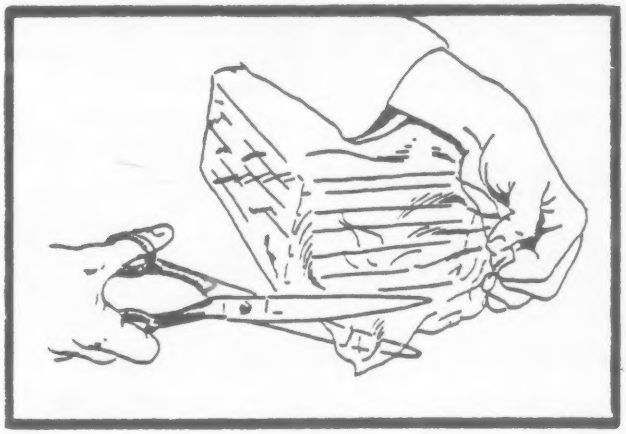
3. DECIDE HOW MANY SHEETS WILL GO INTO EACH PACKAGE (100, 150, 250, 500, ETC.) AND FIGURE OUT HOW MANY PACKAGES THERE WILL BE. ALL PACKAGES SHOULD BE EQUAL.

NOTE: CHECK THIS WITH YOUR INSTRUCTOR.

4. MEASURE THE LIFT.

5. SHRINK WRAP SHOULD BE 3-5 CM LARGER THAN THE MEASUREMENTS OF THE LIFT. DECIDE ON THE BEST SIZE OF PLASTIC SHRINK WRAP TO USE.

6. USING SCISSORS, CUT OFF THE EXTRA PLASTIC.



NOTE: YOU MAY USE THE LARGE SHEAR CUTTER.

WORD GUIDE

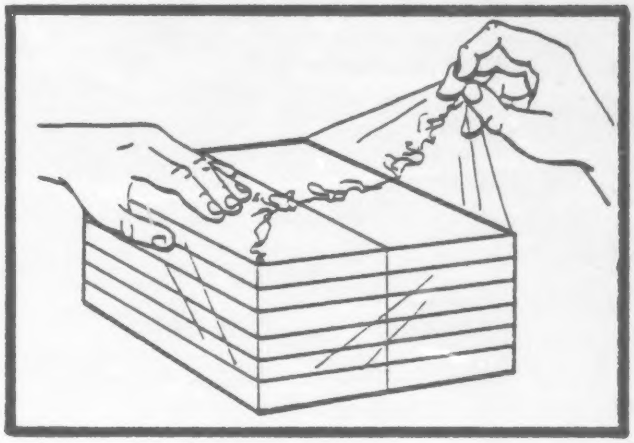
OVERLAP - WHERE THE PLASTIC WRAP IS TWO OR MORE LAYERS THICK.

SNUGLY - TIGHTLY

JOB STEPS

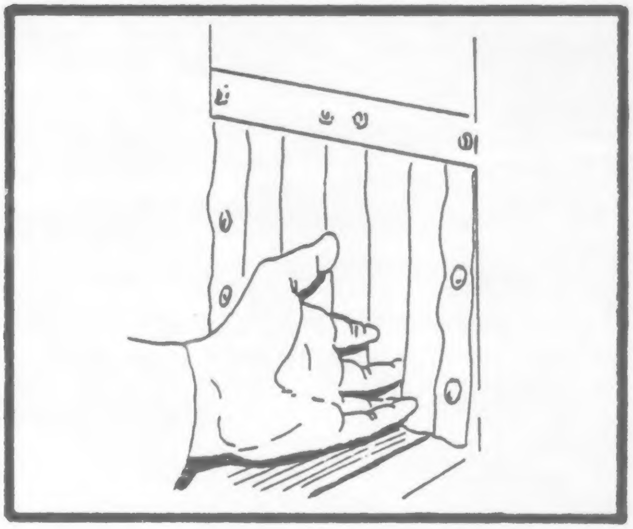
7. WRAP THE LIFT CAREFULLY (THE SEAM WHERE THE PLASTIC OVERLAPS SHOULD BE ON THE BOTTOM).

8. TUCK IN THE ENDS SNUGLY.



9. CHECK TO SEE IF THE SHRINK BOX IS HOT.

NOTE: WAIT (TO GO ON) UNTIL THE SHRINK BOX GETS HOT.

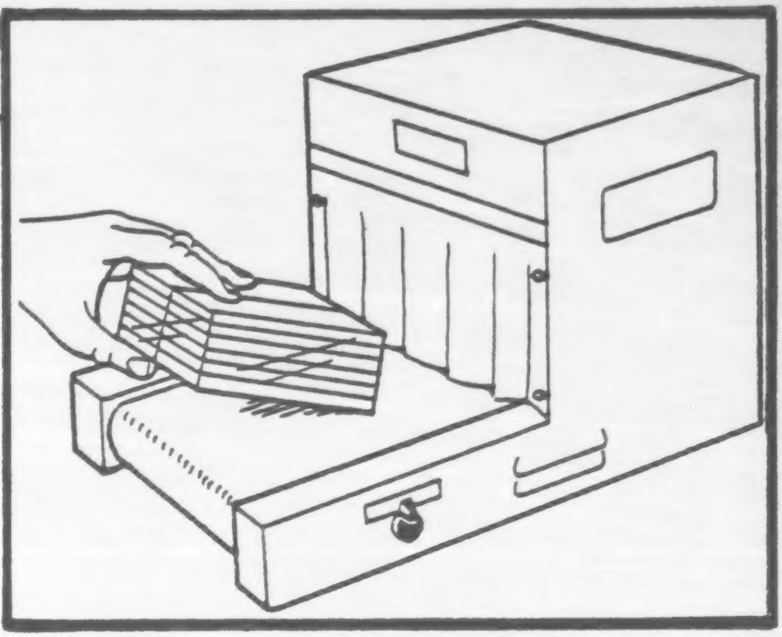


WORD GUIDE

CONVEYOR BELT - A MOVING BELT THAT CARRIES PACKAGES THROUGH THE SHRINK BOX.

WORK FLOW - ORGANIZED, EFFICIENT WAY TO DO ALL THE LIFTS IN THE SAME WAY.

JOB STEPS



10. PUT THE WRAPPED LIFT ON THE MOVING BELT.

11. CATCH THE PACKAGE AS IT COMES OUT.

12. CHECK YOUR PACKAGE:

A. WILL IT HOLD?

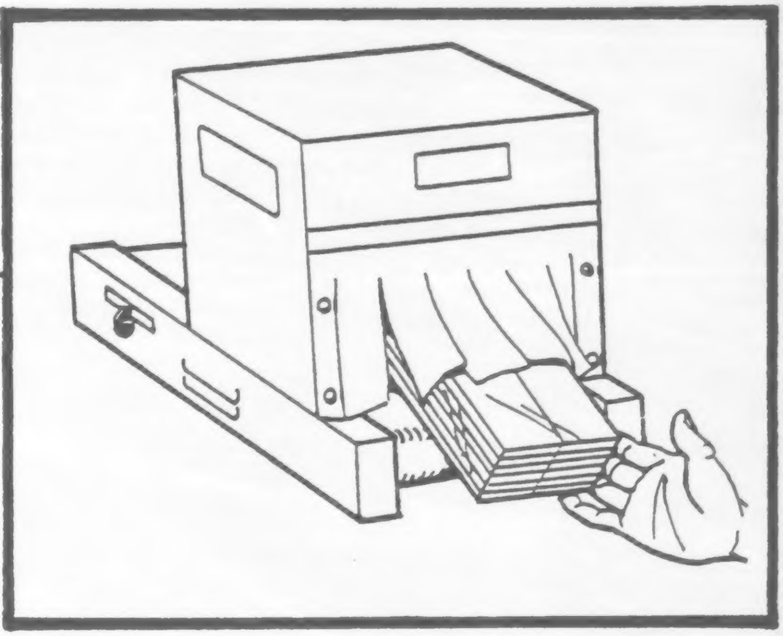
B. IS IT TOO LOOSE? IF SO, SEND IT THROUGH THE SHRINK BOX AGAIN.

C. ARE THE ENDS LOOSE? TOUCH THEM TO THE CONVEYER BELT HEAT PLATE FOR A SECOND.

D. IS THE SEAM LOOSE? TURN THE THERMOSTAT TO #10. IF SO, RUN THE PACKAGE THROUGH AGAIN.

13. TRIM WITH SCISSORS. THERE SHOULD BE NO HOLES OR BURNS.

14. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK. YOU MAY UNWRAP AND REWRAP THE SAME PACKAGE UNTIL YOU DO IT RIGHT.



15. WHEN EVERYTHING IS CORRECT, SET UP FOR WORK FLOW AND CHECK EVERY PACKAGE. RUN THE ENTIRE JOB.

16. DOUBLE-CHECK ALL PACKAGES.

17. TURN OFF THE MACHINE:

A. TURN THE HEAT PLATE THERMOSTAT TO "O" - "OFF".

B. TURN THE UPPER HOOD SWITCH TO "FAN", LET THE SHRINK BOX COOL FOR 5-10 MINUTES BEFORE TURNING OFF THE BELT OR FAN.

JOB STEPS

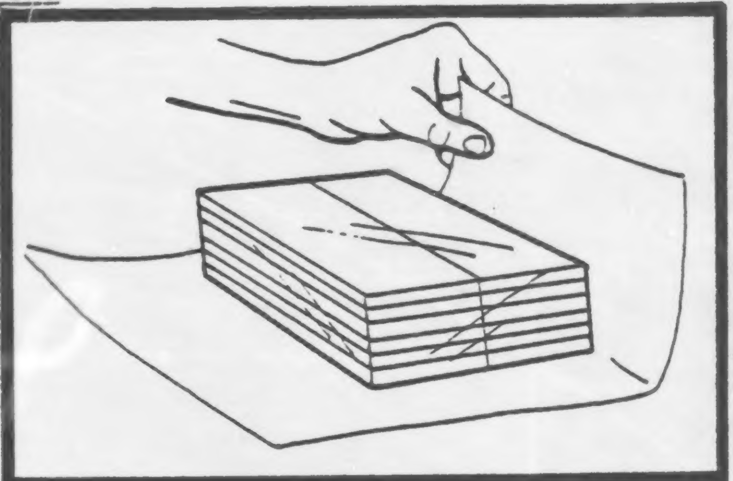
C. WHEN THE HEAT PLATE IS COOL, TURN OFF THE CONVEYOR BELT AND FAN SWITCHES.

18. CLEAN UP SCRAP PLASTIC.

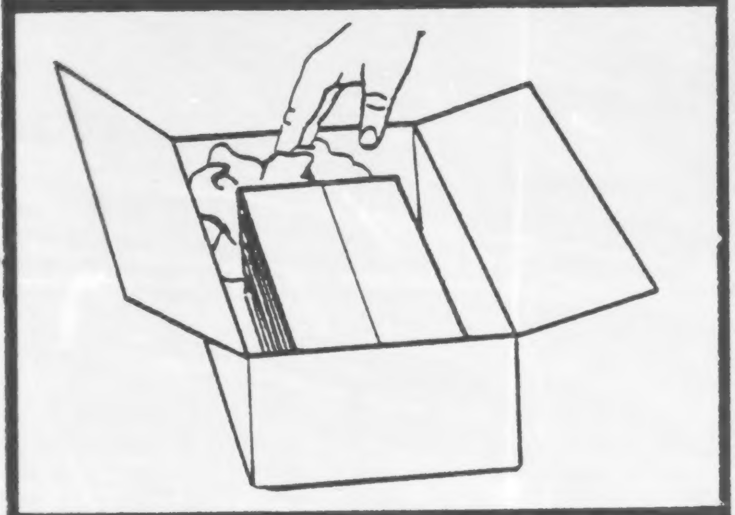
19. PREPARE THE JOB FOR DELIVERY:

ASK YOUR INSTRUCTOR HOW YOU SHOULD DO THIS.

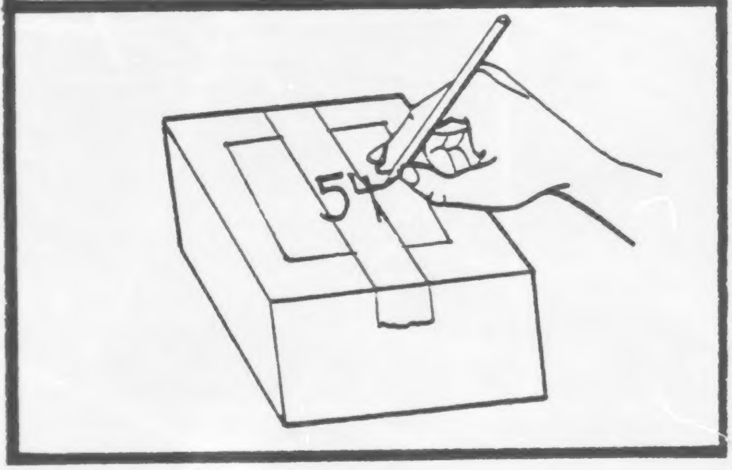
A. WRAP THE JOB IN KRAFT PAPER (MOD #1401 14 020).



B. PUT THE JOB IN A BOX, FILLING THE EMPTY SPACES WITH NEWSPAPERS.



C. TAPE A SAMPLE OF THE PRINTED JOB ON THE BOX AND WRITE THE NUMBER ON IT.

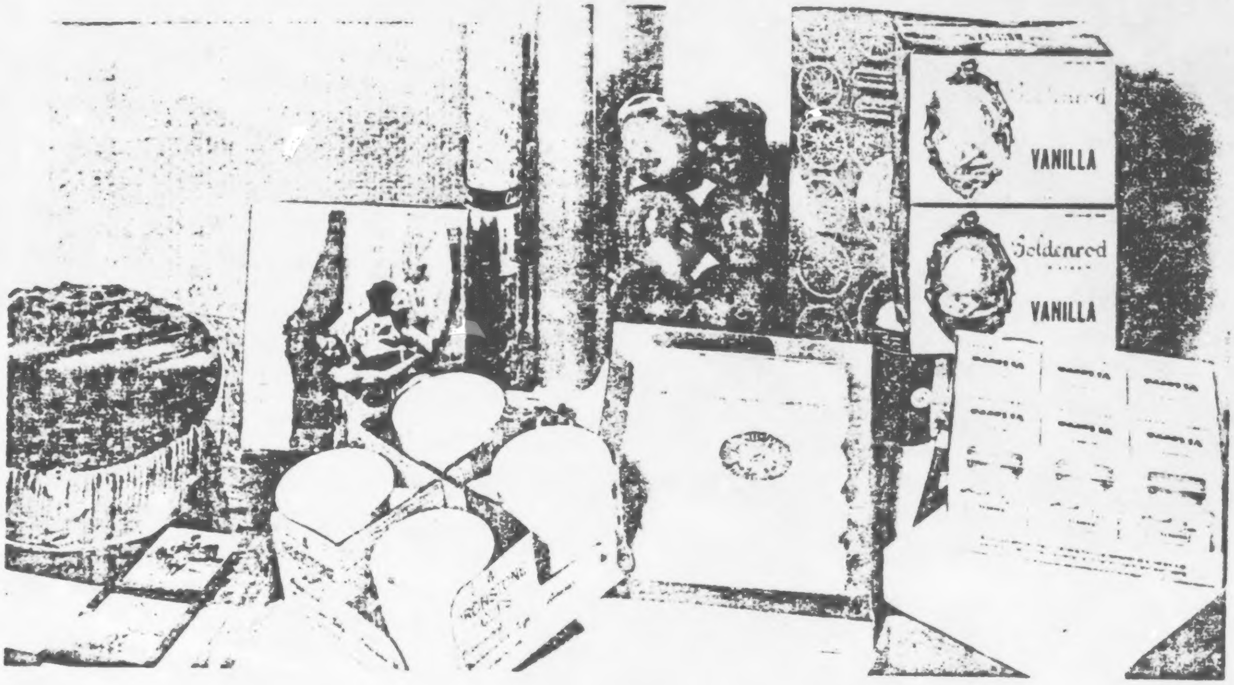


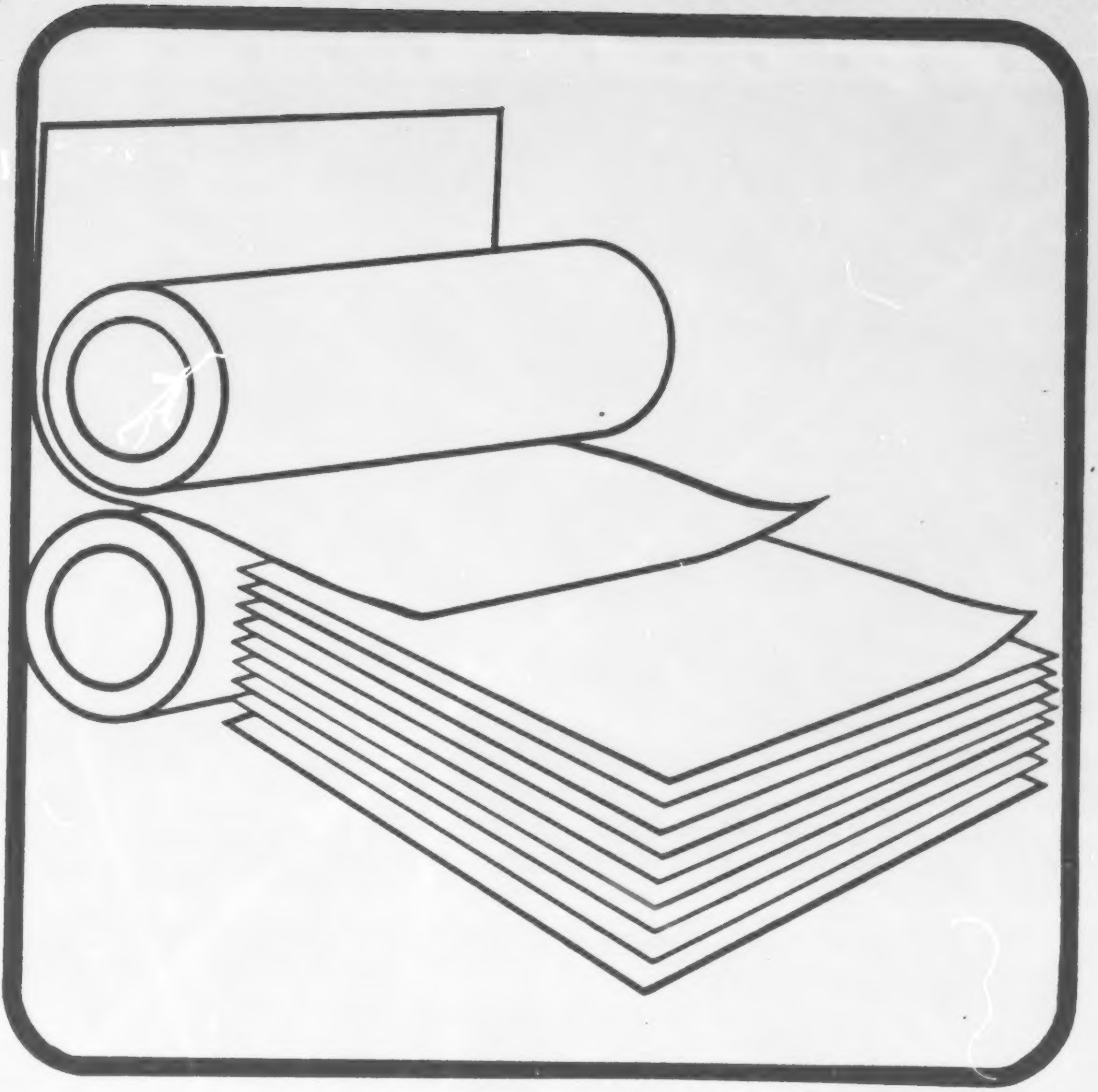
20. PUT A SAMPLE OF THE PRINTED JOB IN THE JOB ENVELOPE.

NOTE: A. IF THE BELT STOPS OR SLIPS WHILE THE PULL ROLLER KEEPS TURNING, SLOWLY TIGHTEN THE TENSION SPRINGS AT THE FEEDER END. USE SILICONE SPRAY ON THE BELT, IF THE FILM STICKS TO IT.

B. WATCH AND CHECK TO BE SURE THE CONVEYOR BELT STAYS IN THE CENTER OF THE CONVEYOR (TENSION SPRINGS).

SAMPLES OF SHRINK WRAPPING:


Goldenrod
VANILLA
Goldenrod
VANILLA



graphics

unit: FINISHING AND BINDERY

capital area career center

1401 14 020
module: 1401 14 020 3 **date:** JULY 1977 **level:** II

skill title: PACKAGING: HAND WRAPPING IN KRAFT PAPER

developed & written by: DEBORAH J. WHITE

visuals by: CHUCK KNOCK

WORD GUIDE

KRAFT PAPER - BROWN WRAPPING PAPER.

KRAFT TAPE - PAPER TAPE WITH GLUE (GUMMED) ON ONE SIDE.

DISPENSER - A TAPE HOLDER.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO WRAP PACKAGES WITH KRAFT PAPER AND KRAFT PAPER TAPE.

IN ORDER TO DO THIS YOU WILL NEED:

ROLL OF KRAFT WRAPPING PAPER (18" WIDE)

PAPER TAPE DISPENSER (2" GUMMED TAPE)

LARGE SCISSORS

JOB TO BE WRAPPED

CARAMATE PROJECTOR

WE WILL KNOW YOU CAN DO IT WHEN:

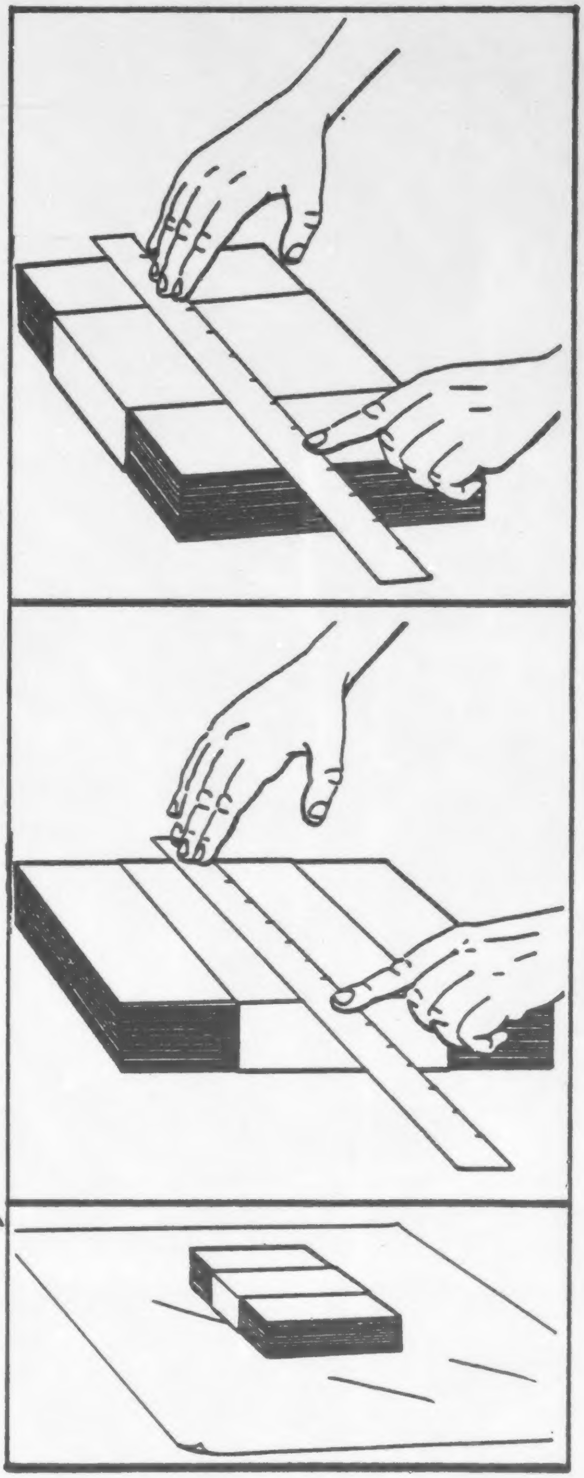
YOU HAVE WRAPPED THE PACKAGES SO THERE ARE NO WRINKLES OR OPEN SEAMS.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

REAM - 500 SHEETS OF PAPER; ABOUT 2" THICK.

JOB STEPS



1. WATCH ADVANCED STUDENTS WRAP PACKAGES WITH KRAFT PAPER FOR 1/2 HOUR.

2. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

3. GET THE FIRST JOB, A REAM OF 8 1/2" X 11" PAPER (500 SHEETS, 2"), AND

A. DECIDE HOW MUCH KRAFT PAPER YOU WILL NEED:

1. MEASURE FOR LENGTH:

((LENGTH + THICKNESS) X 2) + 1"
((11" + 2") X 2) + 1"
(13" X 2) + 1"
26" + 1

LENGTH OF KRAFT PAPER = 27"
(1" IS FOR OVERLAP.)

2. MEASURE FOR WIDTH:

(WIDTH + THICKNESS) + 1"
(8 1/2" + 2") + 1"
10 1/2" + 1"

WIDTH OF KRAFT PAPER = 11 1/2"
(1" IS FOR OVERLAP.)

B. DECIDE ON THE LENGTH OF PAPER TO TEAR OFF THE PAPER DISPENSER. ASK YOUR INSTRUCTOR.

4. PUT THE JOB IN THE CENTER OF THE PAPER, PRINTING DOWN, ON THE KRAFT PAPER.

5. BRING THE SIDES UP AND PULL TIGHT.

6. TAPE THE SEAM WITH KRAFT PAPER TAPE.

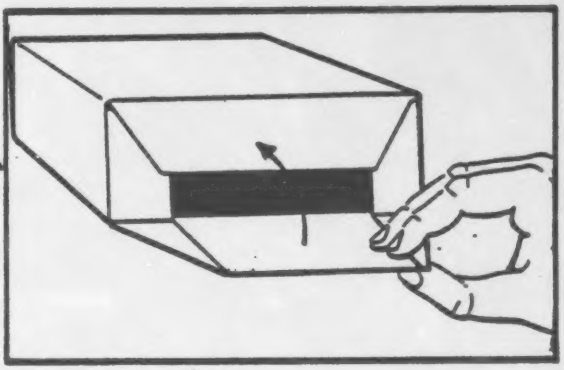
WORD GUIDE

CREASE - FOLD

JOB STEPS

7. ON ONE END, TUCK THE SIDES IN TIGHT. FOLD THE TOP FLAP DOWN TIGHT.

8. FOLD THE BOTTOM FLAT UP TIGHT AND TAPE THE END CLOSED (DO NOT USE TOO MUCH TAPE).



9. BUMP THE SEALED END OF THE PACKAGE ON THE TABLE.

10. REPEAT STEPS 7 AND 8 TO CLOSE THE OPEN END.

11. CREASE ALL 12 EDGES FOR A NEAT PACKAGE.

12. GET A LARGE JOB TO WRAP (A LARGE BOX OR 6 PACKAGED ITEMS) AND MEASURE THE PACKAGE. DECIDE HOW MUCH PAPER YOU WILL NEED.

A. LENGTH = ((LENGTH + THICKNESS) X 2) + 1"

B. WIDTH = (WIDTH + THICKNESS) + 1"

(FIGURE THIS OUT ON SCRAP PAPER).

13. WRAP THIS JOB: REPEAT JOB STEPS 3-11. CUT PAPER TO MEASUREMENTS FOUND IN JOB STEP 12 (A-B).

14. GET A SMALL JOB TO WRAP (100 2" X 3 1/2" BUSINESS CARDS) AND MEASURE THE PACKAGE: DECIDE HOW MUCH PAPER TO USE.

A. LENGTH = ((LENGTH + THICKNESS) X 2) + 1"

B. WIDTH = (WIDTH + THICKNESS) + 1"

(FIGURE THIS OUT ON SCRAP PAPER.)

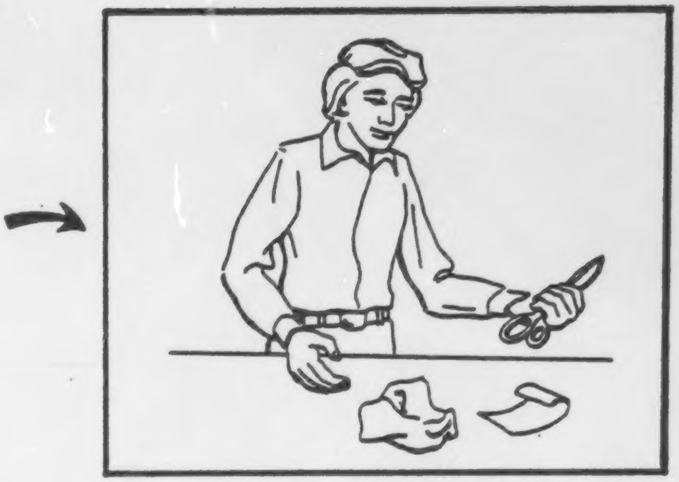
15. WRAP THE SMALL JOB: REPEAT JOB STEPS 3B-11. CUT PAPER TO MEASUREMENTS IN JOB STEP 4 (A-B).

JOB STEPS

16. ASK YOUR INSTRUCTOR TO CHECK ALL 3 PACKAGES. PACKAGES WILL BE OPENED.

17. DO THIS MODULE OVER AGAIN, IF YOU NEED TO.

18. CLEAN UP YOUR WORK AREA.



A. RETURN PRACTICE JOBS.
B. PUT AWAY TOOLS.
C. PICK UP AND THROW AWAY ALL SCRAPS.

NOTE: YOU WILL BE ASKED TO WRAP MANY JOBS IN KRAFT PAPER. ALWAYS SAVE A COPY OF THE PRINTED JOB TO TAPE TO THE OUTSIDE OF THE PACKAGE. JOBS WRAPPED IN SHRINK PLASTIC SHOULD BE WRAPPED AGAIN IN KRAFT PAPER FOR DELIVERY.

graphics

unit: FINISHING AND BINDERY

capital area career center

1401 14 021
module: 1401 14 021 3 **date:** JANUARY 1978 **level:** III

skill title: PACKAGING: FOR SHIPPING & MAILING

developed & written by: GLEN PETTIT

visuals by: BRUCE BENNETT

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO WRAP AND SEAL A PACKAGE OR CARTON TO BE MAILED OR SHIPPED.

IN ORDER TO DO THIS YOU WILL NEED:

INSTRUCTIONS
PRINTED JOB TO WRAP
KRAFT WRAPPING PAPER & PAPER TAPE
REINFORCED KRAFT PAPER TAPE
STRING, SCISSORS, CARTON KNIFE
EMPTY CARTON

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN SEAL A CARTON USING ALL THREE TAPES.
2. YOU CAN WRAP AND SEAL A PACKAGE OR CARTON TO BE MAILED OR SHIPPED.
3. YOU CAN TIE A PACKAGE OR CARTON TO BE MAILED OR SHIPPED.

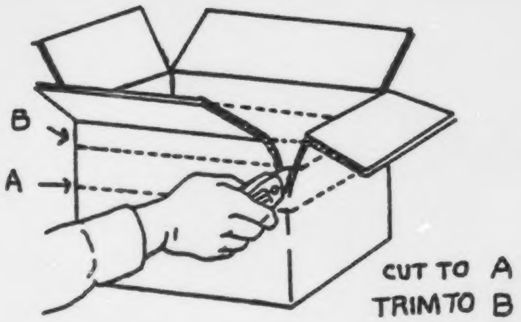
A TAPE OF THIS MODULE IS AVAILABLE.

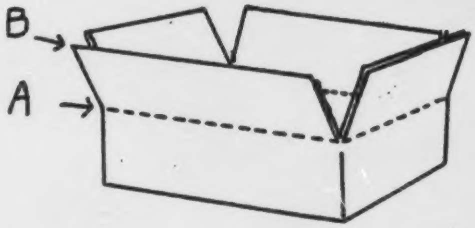
INFORMATION

A PACKAGE OR CONTAINER TO BE MAILED MUST BE STRONG ENOUGH TO HOLD AND PROTECT ITS CONTENTS DURING HANDLING AND SHIPPING. THE STRENGTH OF THE PACKAGE OR CARTON DEPENDS ON THE WEIGHT, SIZE AND KIND OF MATERIAL BEING SHIPPED.

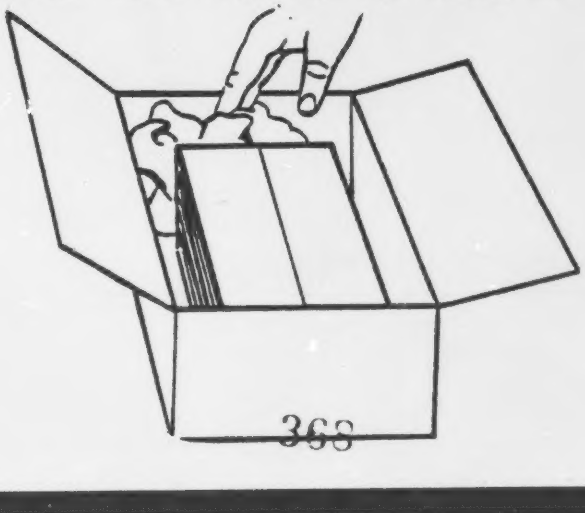
PAPER THAT IS BEING MAILED IS NOT BREAKABLE AND CAN BE SHIPPED IN HEAVY KRAFT WRAPPING PAPER OR CORRUGATED CARTONS (TWO LAYERS OF HEAVY BROWN PAPER WITH A WRINKLED OR FOLDED PIECE OF PAPER GLUED BETWEEN THEM).

TO MAKE A CORRUGATED CARTON TO FIT A PILE OF PAPER, A LARGER CONTAINER CAN BE CUT DOWN. BE SURE TO USE THE SPECIAL CARTON KNIFE. USE THE EXTRA BOX MATERIAL TO STUFF THE PAPER TIGHTLY INTO THE BOX YOU MAKE.



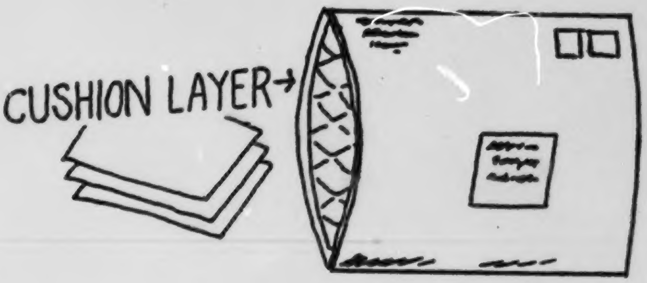


USE NEWSPAPERS, PAPER OR EXTRA CARTON SCRAPS TO CUSHION THE PAPER INSIDE THE CORRUGATED BOX, YOUR PAPER OR ARTICLE MUST BE SNUG AND TIGHT INSIDE THE BOX. IF YOU ARE PACKAGING MANY DIFFERENT ITEMS (OR EASY TO BREAK ITEMS) IN THE SAME BOX, USE ALOT OF SHREDDED PAPER ALL AROUND EACH ITEM AND THE SIDES OF THE BOX.

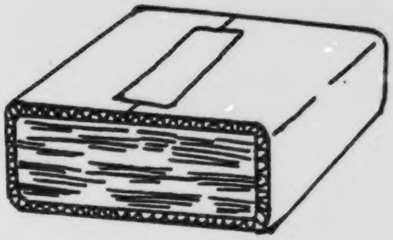


INFORMATION

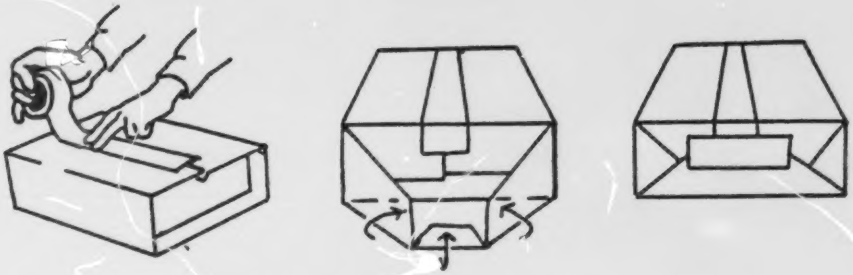
FOR VERY SMALL ITEMS THERE ARE HEAVY, THICK MAILING ENVELOPES WITH A SOFT CUSHION OR PACKING LAYER. THESE ARE EXPENSIVE BUT SAVE WRAPPING TIME, JUST PUT THE ITEMS IN AND STAPLE THE ENVELOPE SHUT.



TO MAIL A SMALL AMOUNT OF PAPER (UP TO 500 SHEETS), TAPE A PIECE OF CORRUGATED BOARD AROUND THE PAPER FIRST, BEFORE WRAPPING WITH HEAVY KRAFT PAPER.

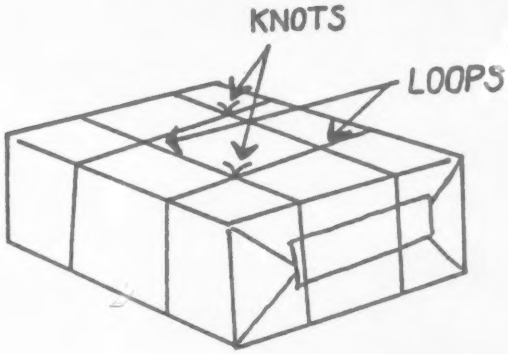


KRAFT WRAPPING PAPER MUST BE AT LEAST EQUAL IN QUALITY AND STRENGTH TO THE KRAFT PAPER USED FOR GROCERY BAGS. UNLESS THE BOX OR CONTAINER IS A HEAVY MATERIAL AND PLAIN (WITHOUT PRINTING), ALWAYS WRAP THE BOX IN KRAFT WRAPPING PAPER.



INFORMATION

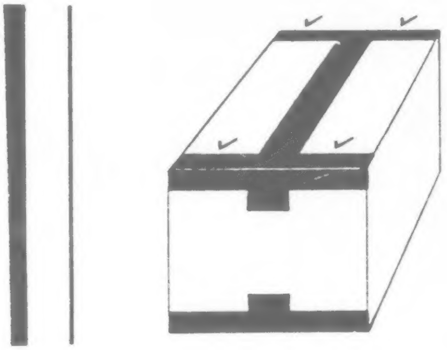
FOR EXTRA SAFETY, THE POST OFFICE RECOMMENDS THAT A STRONG CORD BE TIED AROUND THE PACKAGE, AS SHOWN:

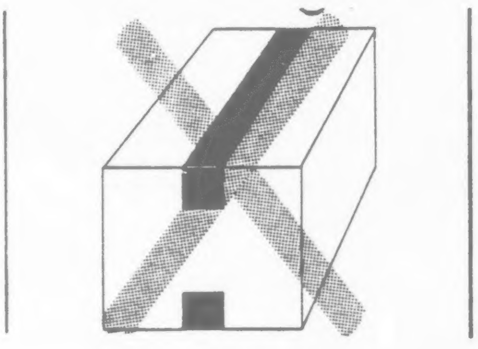


A CARTON CAN ALSO BE STAPLED CLOSED WITH A SPECIAL STAPLE OR GLUED SHUT. A LARGE PRINT SHOP MAY HAVE A TYING MACHINE TO TIE PACKAGES OR BUNDLES SHUT. THE PACKAGE SHOULD BE SO TIGHT THAT YOU CAN NOT EASILY GET A PENCIL INSIDE THE TAPED FLAPS.

THERE ARE THREE COMMON TYPES OF TAPES (OR CLOSURES) USED: KRAFT PAPER TAPE (2" WIDE), REINFORCED KRAFT PAPER TAPE (3" WIDE) AND PRESSURE SENSITIVE FILAMENT TAPE.

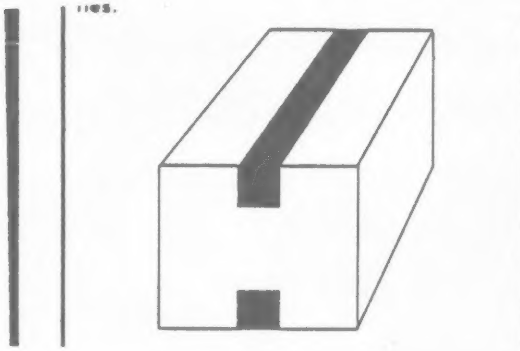
TO SEAL A HEAVY CARTON WITH KRAFT PAPER TAPE IS NOT A GOOD IDEA BECAUSE THIS TAPE IS LIGHT WEIGHT AND NOT VERY STRONG. YOU MUST BE SURE THERE IS ENOUGH WATER IN THE PAPER TAPE DISPENSOR AND THE STICKY GLUE SIDE OF THE TAPE IS WET. DOUBLE CHECK THE PACKAGE WHEN THE TAPE IS DRY TO BE SURE THE TAPE IS STICKING.

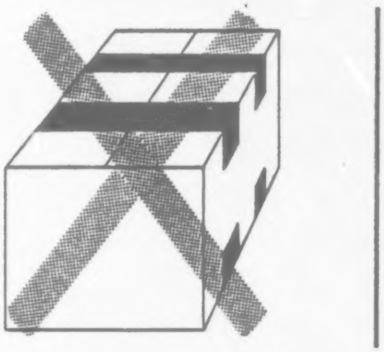




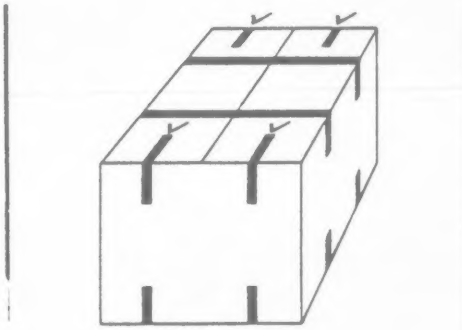
INFORMATION

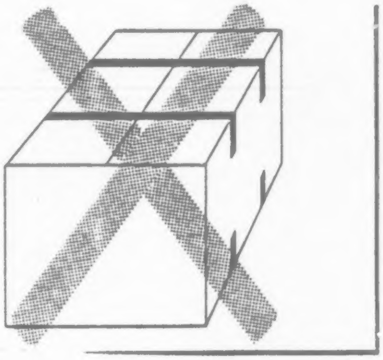
THE REINFORCED KRAFT PAPER TAPE IS BEST FOR HEAVY CARTONS AND PACKAGES. IT HAS MANY LAYERS OF HEAVY PAPER WITH THREADS GLUED BETWEEN THEM FOR EXTRA STRENGTH.





PRESSURE SENSITIVE FILAMENT TAPE IS VERY STRONG AND VERY EXPENSIVE. USE ONLY A FEW SHORT STRIPS TO SEAL A PACKAGE.



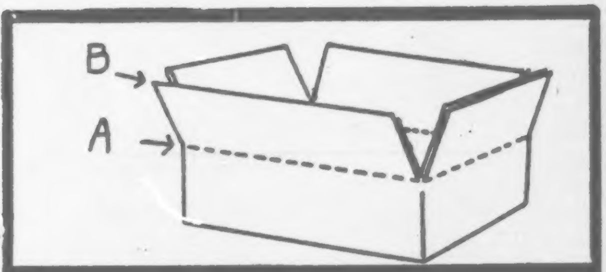


COSTS: PAPER TAPE - 3¢ PER METER, REINFORCED PAPER TAPE - 10¢ PER METER, FILAMENT TAPE - 25¢ PER METER.

JOB STEPS

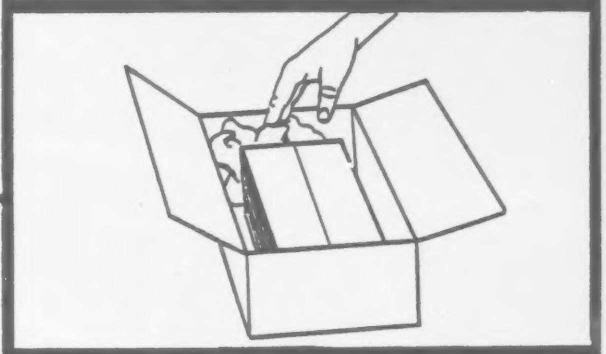
1. ASK YOUR INSTRUCTOR FOR AN ARTICLE OR PILE OF PAPER TO WRAP.

2. GET A SCRAP BOX (DO NOT USE A 11" X 17" PAPER CARTON THAT HOLDS 5M SHEETS OF 8 1/2" X 11" PAPER) AND USING THE CARTON KNIFE, CUT THIS CARTON DOWN TO THE DESIRED SIZE.



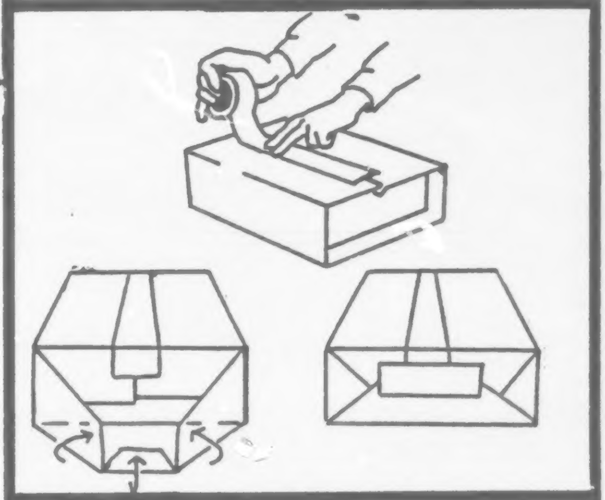
3. PLACE YOUR ARTICLE OR PAPER INSIDE THIS CARTON YOU MADE.

4. PACK THE ARTICLE OR PAPER TIGHTLY IN THE CARTON USING SCRAP PAPER.

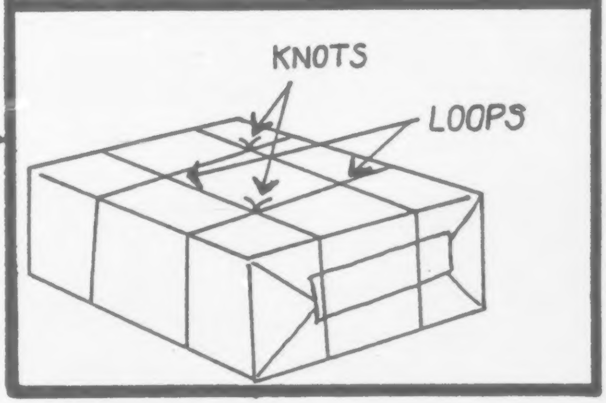


5. CLOSE AND SEAL THE CARTON USING THE KRAFT REINFORCED TAPE.

6. WRAP THE CARTON IN KRAFT WRAPPING PAPER USING KRAFT PAPER TAPE (AS YOU LEARNED IN MOD 1401 14 020).



7. TIE THE PACKAGE WITH 3 PLY CORD OR STRING AS SHOWN. BE SURE TO KNOT WHERE THE LOOPS OVERLAP.



8. WRITE YOUR NAME IN THE CORNER WHERE THE POSTAGE WOULD GO, THEN GO ON TO THE NEXT MOD. YOU NEED THIS PACKAGE AS A PART OF THE NEXT MOD (1401 14 022 "IDENTIFICATION OF PACKAGES . .").

graphics

unit: FINISHING AND BINDERY

capital area career center

1401 14 023

module: 1401 14 023 3 date: JULY 1977 level: II

skill title: FOLDER: USING A SMALL TABLE MODEL FOLDER

developed & written by: DEBRAH J. WHITE

visuals by: CHUCK KNOCK

WORD GUIDE

FRENCH FOLD - FOLDING A SHEET OF PAPER INTO QUARTERS.

LETTER FOLD - FOLDING INTO THIRDS FOR BUSINESS LETTERS.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO SET UP THE TABLE MODEL FOLDER FOR THREE KINDS OF FOLDS:

A. SINGLE FOLD
B. FRENCH FOLD
C. LETTER FOLD

IN ORDER TO DO THIS YOU WILL NEED:

SMALL TABLE MODEL FOLDER

SCRAP PAPER (8 1/2" X 11", #20)

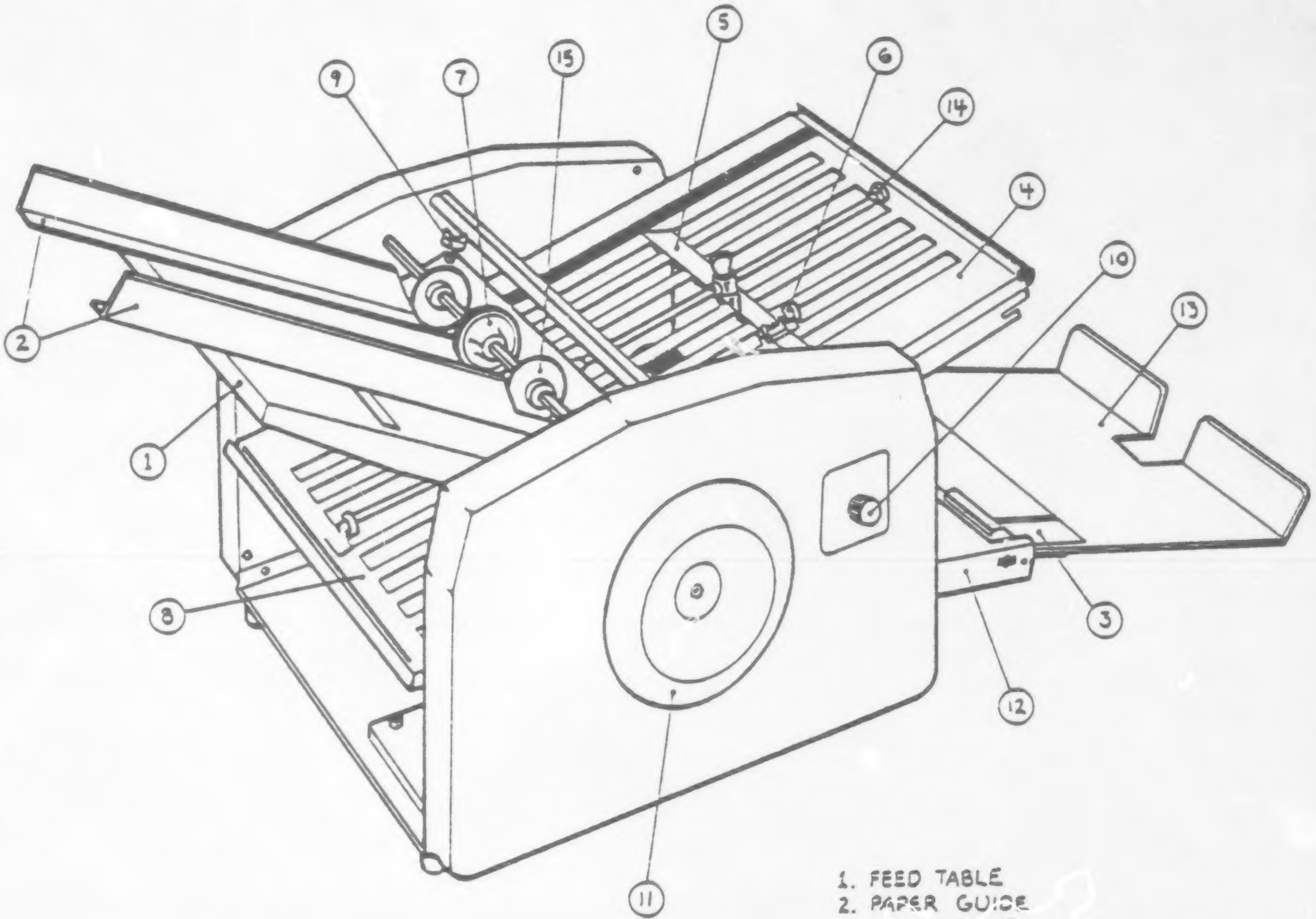
WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN SET UP THE SMALL TABLE MODEL FOLDER FOR THREE KINDS OF FOLDS EASILY AND QUICKLY.

A TAPE OF THIS MODULE IS AVAILABLE.

JOB STEPS

1. TAKE MATERIALS TO YOUR WORK AREA AND LEARN THE PARTS OF THE MARTIN YALE FOLDER IN THE PICTURE BELOW.



1. FEED TABLE
2. PAPER GUIDE
3. FOLD CHART
4. UPPER FOLD PLATE
5. UPPER FOLD INDICATOR BAR
6. ANGULAR BAR CONTROL
7. FEED ROLLER
8. LOWER FOLD PLATE
9. ROLLER TENSION ADJUSTER
10. ON-OFF SWITCH & SPEED CONTROL
11. HAND FEED KNOB
12. EXIT TABLE
13. RECEIVING TRAY
14. MICRO ADJUSTMENT for 1st FOLD
15. PAPER GUIDE ROLLER

JOB STEPS

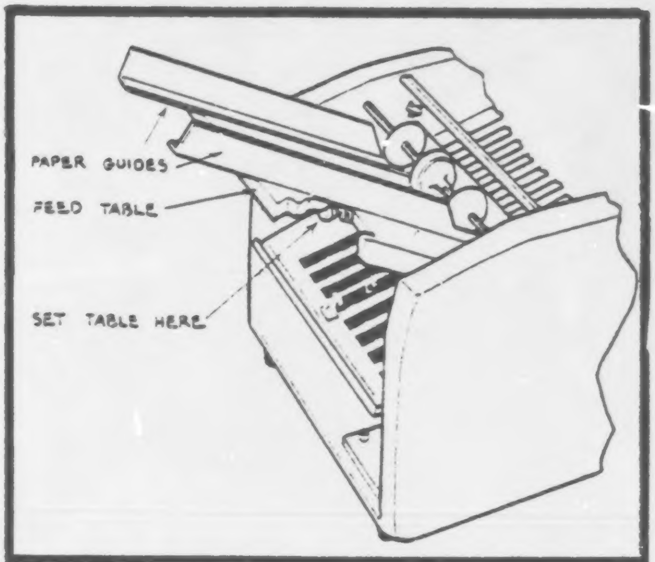
2. WATCH ADVANCED STUDENTS RUN THE TABLE MODEL FOLDER FOR ONE HOUR.

3. ASK YOUR INSTRUCTOR TO SHOW YOU THE DIRECTIONS ON USING THE FOLDER.

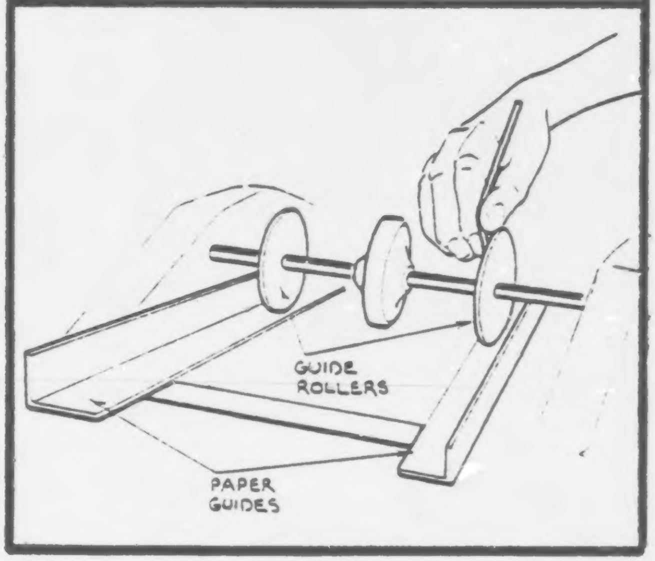
SINGLE FOLD:

1. TURN THE FEED BY HAND. BE SURE THE MACHINE IS EMPTY AND FREE BEFORE YOU BEGIN.

2. SET THE FEED TABLE AND PAPER GUIDES FOR THE 8 1/2" X 11" PAPER, CENTERED ON THE FOLDER.

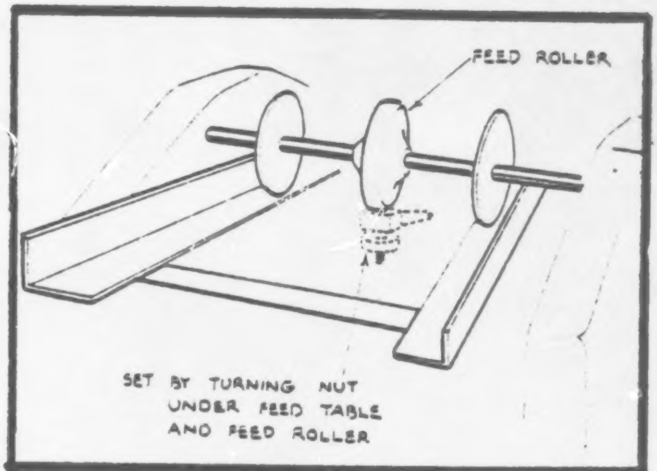

PAPER GUIDES
FEED TABLE
SET TABLE HERE

3. PUT THE GUIDE ROLLERS 2-3 CM IN FROM THE PAPER GUIDES.


GUIDE ROLLERS
PAPER GUIDES

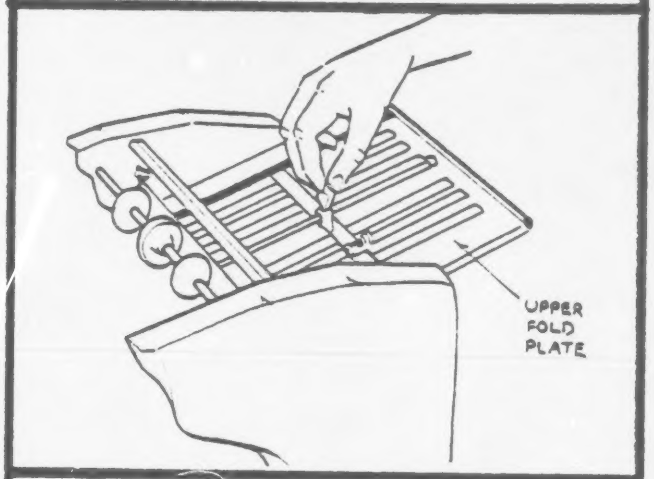
JOB STEPS

4. SET THE SEPARATOR FOR THIS PAPER THICKNESS.


FEED ROLLER
SET BY TURNING NUT UNDER FEED TABLE AND FEED ROLLER

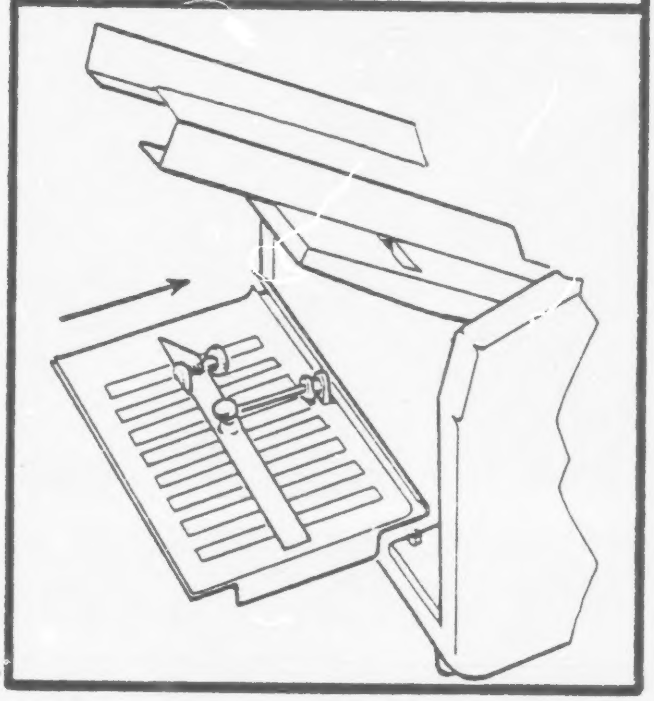
5. CHECK WITH YOUR INSTRUCTOR TO SEE IF YOU NEED TO CLEAN THE FEED ROLLER WITH "FEDRON" RUBBER CLEANER AND ROUGH ITS SURFACE WITH AN ERASER OR EMERY PAPER.

6. TO GET A SINGLE FOLD IN YOUR 8 1/2" X 11" SHEET OF PAPER, LOOK AT THE FOLDING CHART AND SET THE UPPER PLATE FOR 5 1/2".


UPPER FOLD PLATE

7. CHECK THE LOWER PLATE TO BE SURE THAT THE DEFLECTOR EDGE IS IN THE FORWARD POSITION (IN).

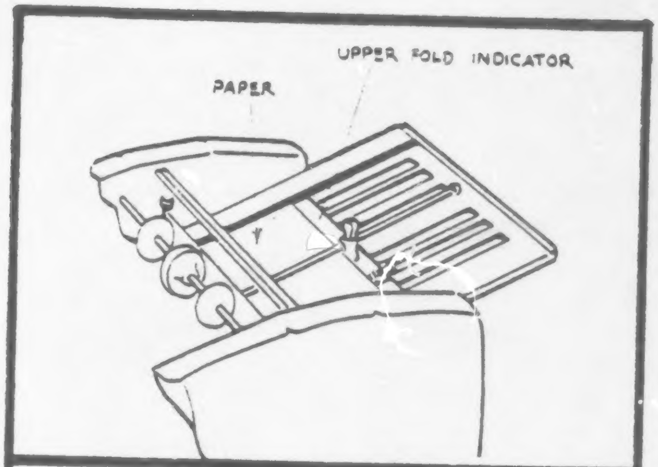
8. PUT A SINGLE SHEET IN THE FEEDER.



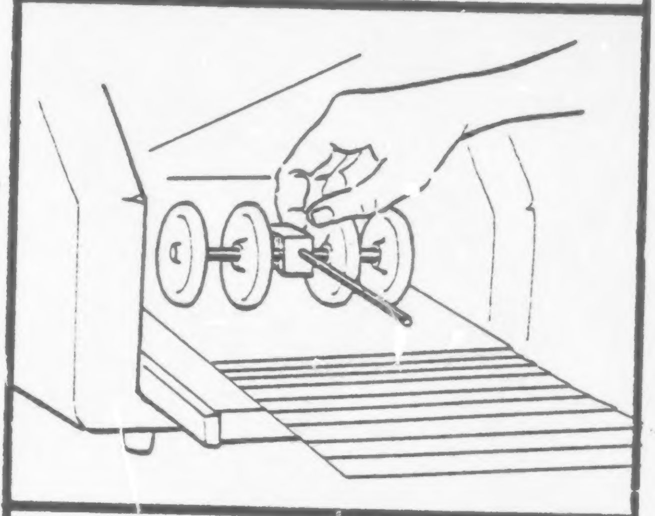
JOB STEPS

9. SLOWLY TURN THE HAND FEED KNOB. JUST BEFORE THE SHEET REACHES THE "UPPER FOLD INDICATOR BAR" (#5), CHECK IF THE EDGE OF THE SHEET SQUARELY TOUCHES IT. ADJUST THE ANGULAR BAR CONTROL, IF YOU NEED TO.

10. KEEP TURNING THE FEED KNOB.

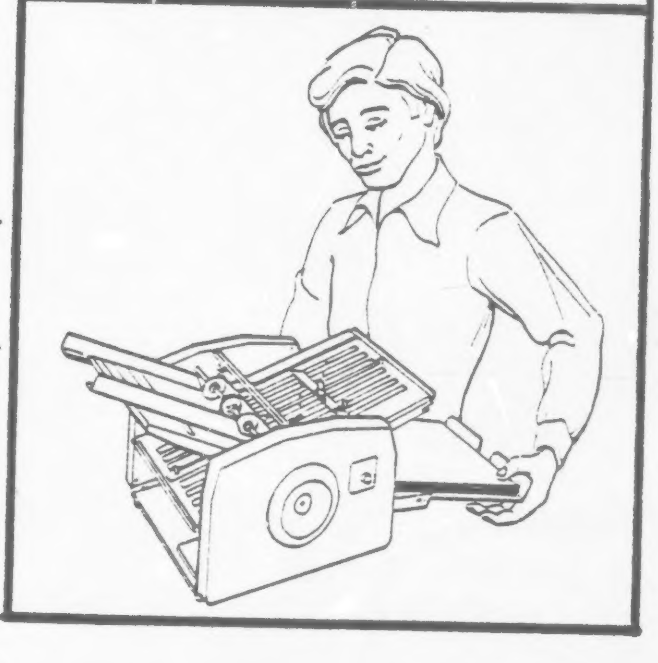


11. SET THE STACKING WHEELS ABOUT 2-3 CM BEYOND THE FOLDED PAPER AS IT LEAVES THE FINAL RUBBER GUIDE ROLLERS.



12. DOUBLE-CHECK TO BE SURE THAT NONE OF THE CUTTERS ARE LEAVING ANY MARKS ON THE PAPERS.

13. WITH THE FOLDER SET AND DOUBLE-CHECKED (FOR A SINGLE HALF FOLD), PUT 100 SHEETS IN THE FEEDER. FOLD THESE (DO NOT GO FASTER THAN #2 ON THE SPEED CONTROL).



WORD GUIDE

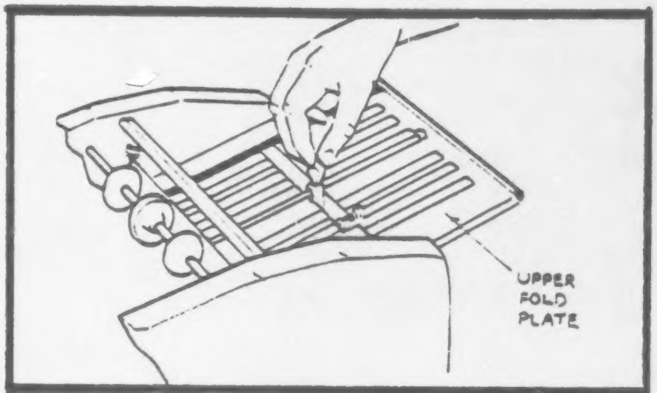
ENGAGE - CAUSE PARTS TO MIX TOGETHER; GET PARTS READY TO WORK.

JOB STEPS

FRENCH FOLD:

1. SET THE UPPER PLATE FOR HALF OF 8 1/2" (OR 4 1/4").

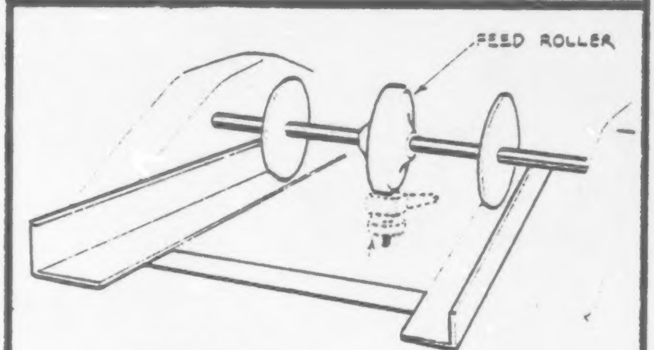
2. SET THE FEEDER.



3. SET THE SEPARATOR AND DELIVERY (ASK AN ADVANCED STUDENT TO CHECK YOUR WORK).

4. FRENCH FOLD THE 100 FOLDED SHEETS FROM JOB STEP 4.

5. WHEN FINISHED, ASK YOUR INSTRUCTOR TO CHECK YOUR WORK.

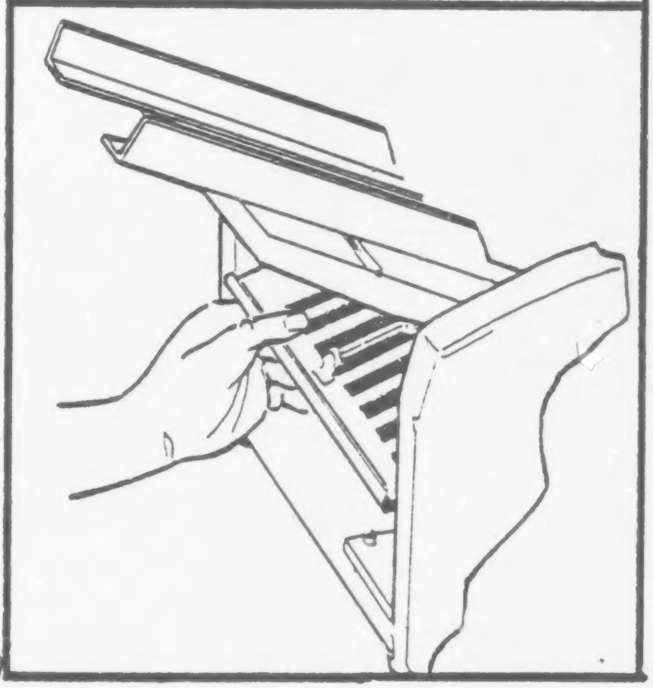


SET BY TURNING NUT UNDER FEED TABLE AND FEED ROLLER

LETTER FOLD:

1. ENGAGE THE LOWER FOLD PLATE. LOOK AT THE SETTINGS ON THE FOLDING CHART FOR A 8 1/2" X 11" LETTER FOLD.

2. SET THE TWO PLATES (ASK AN ADVANCED STUDENT TO HELP YOU).



WORD GUIDE

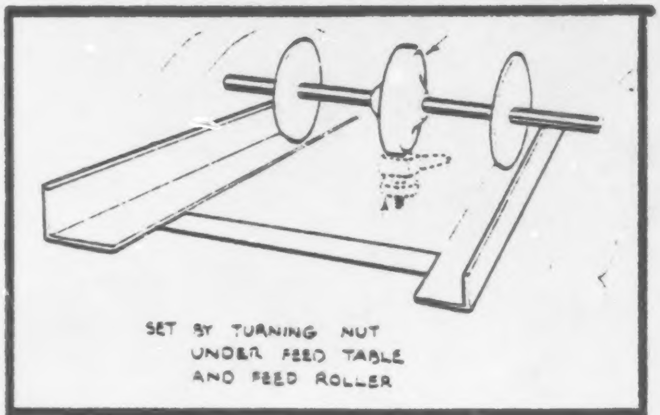
ACCURACY - EXACTNESS

JOB STEPS

3. SET THE FEEDER.

4. SET THE SEPARATOR AND DELIVERY FOR 8 1/2" X 11" PAPER.

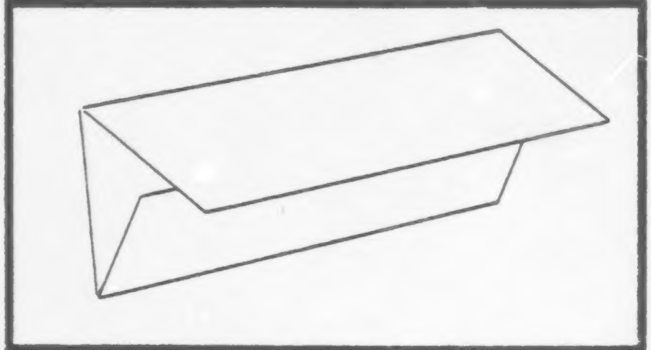
5. RUN A SHEET THROUGH THE FOLDER BY HAND AND MAKE ADJUSTMENTS, IF YOU NEED TO.



SET BY TURNING NUT UNDER FEED TABLE AND FEED ROLLER

6. RUN THREE SHEETS AND CHECK THE CENTER ONE FOR ACCURACY.

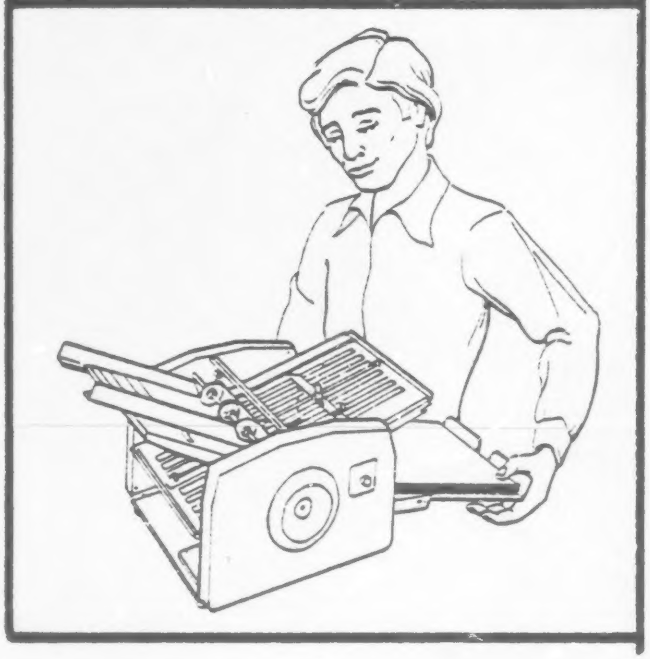
NOTE: THE FIRST AND LAST WILL PROBABLY BE "OFF REGISTER". THE LAST FOLD (OUTSIDE) SHOULD BE A LITTLE LARGER AND THE FIRST FOLD (INSIDE) SHOULD BE SLIGHTLY SHORTER. THIS WILL MAKE THE LETTER FOLD EASILY AND FIT INTO AN ENVELOPE.



7. RUN AT LEAST 100 SHEETS OF 8 1/2" X 11" IN THE LETTER FOLD. DO NOT GO OVER #2 ON THE SPEED CONTROL.

8. WHEN FINISHED, ASK YOUR INSTRUCTOR TO CHECK YOUR WORK. THEN GO ON TO STEP 9.

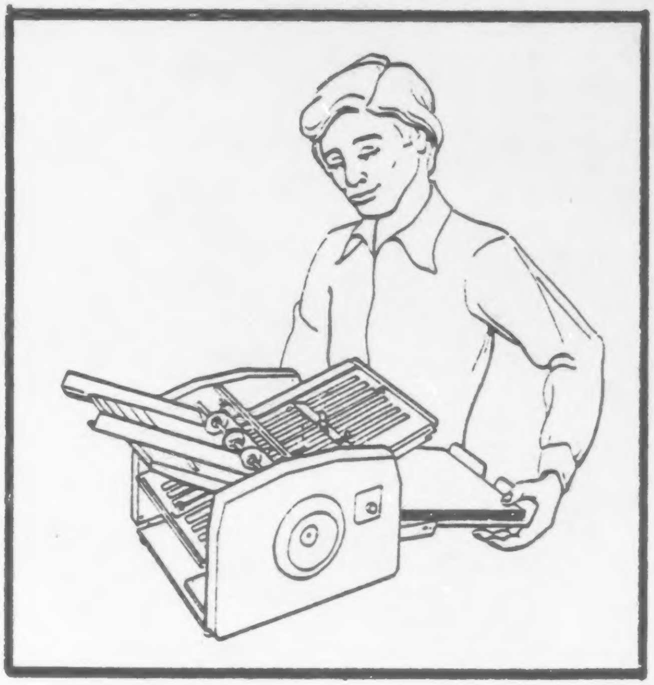
9. RESET THE FOLDER FOR THE 3 KINDS OF FOLDS WITHOUT RUNNING THROUGH ANY PAPERS. THEN, RUN ONE SHEET THROUGH BY HAND TO CHECK YOUR SETTINGS. CONTINUE THIS UNTIL YOU CAN MAKE THE SETTINGS QUICKLY AND EASILY.



JOB STEPS

10. ASK YOUR INSTRUCTOR TO WATCH YOU AS YOU MAKE THE CHANGES IN SETTINGS FOR THREE KINDS OF FOLDS: ➔

A. SINGLE FOLD
B. FRENCH FOLD
C. DOUBLE (BUSINESS LETTER) FOLD



11. REPEAT JOB STEPS 9 AND 10 UNTIL YOU CAN RESET THE FOLDER QUICKLY AND EASILY. ➔

12. CLEAN UP YOUR WORK AREA.

- THROW AWAY FOLDED SCRAP PAPER
- RETURN GOOD, FLAT PAPER TO THE SCRAP PAPER BOX
- LEAVE THE FOLDER SET UP FOR LETTER FOLDS.

graphics

unit: FINISHING AND BINDERY

capital area career center

module: 1401 14 024
1401 14 024 3 date: JULY 1977 level: ____

skill title: FOLDER: PERFORATING AND SCORING ON A TABLE MODEL FOLDER

developed & written by: DEBORAH J. WHITE

visuals by: CHUCK KNOCK

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WORD GUIDE

SCORING - TO CREASE A SHEET OF PAPER SO IT WILL BE EASY TO FOLD.

PERFORATING - CUTTING SMALL SLITS IN THE PAPER SO THAT IT CAN BE TORN APART EASILY (I.E. POST CARDS, COUPONS).

SLITTING - CUTTING APART THE PAPER AS IT COMES OFF THE FOLDER.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO SET UP AND USE THE SCORING, PERFORATING AND SLITTING ATTACHMENTS ON A SMALL FOLDER.

IN ORDER TO DO THIS YOU WILL NEED:

MARTIN YALE FOLDER

ALLEN WRENCH

SCRAP 5 1/2" X 8 1/2" PAPER

SCORING, PERFORATING AND SLITTING ATTACHMENTS

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN QUICKLY AND EASILY SET UP THE SMALL FOLDER WITH THE SCORING, PERFORATING OR SLITTING ROLLERS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

YOU MUST HAVE COMPLETED MOD #1401 14 023 "USING A SMALL TABLE MODEL FOLDER" BEFORE STARTING THIS MOD.

SCORING: TO SCORE A SHEET MEANS TO CREASE A SHEET SO IT WILL FOLD EASILY AND ON THE CREASE. HEAVY STOCK LIKE COVERS AND INDEX (CARD) CANNOT BE FOLDED BUT CAN BE RUN THROUGH THE FOLDER FLAT AND CREASED (SCORED) THEN EASILY FOLDED BY HAND. OFTEN TIMES A SHEET MAY BE FOLDED IN HALF THEN SCORED IN HALF AGAIN AS IT COMES OUT. THIS IS A FRENCH FOLD (IN QUARTERS TO GIVE 8 PAGES).

PERFORATING: TO PERFORATE MEANS TO CUT SMALL SLITS IN THE PAPER, SO THE PAPER MAY BE EASILY FOLDED AND TORN APART ALONG THE PERFORATION. RETURN POST CARDS, REPLY COUPONS, ETC. ARE OFTEN PERFORATED.

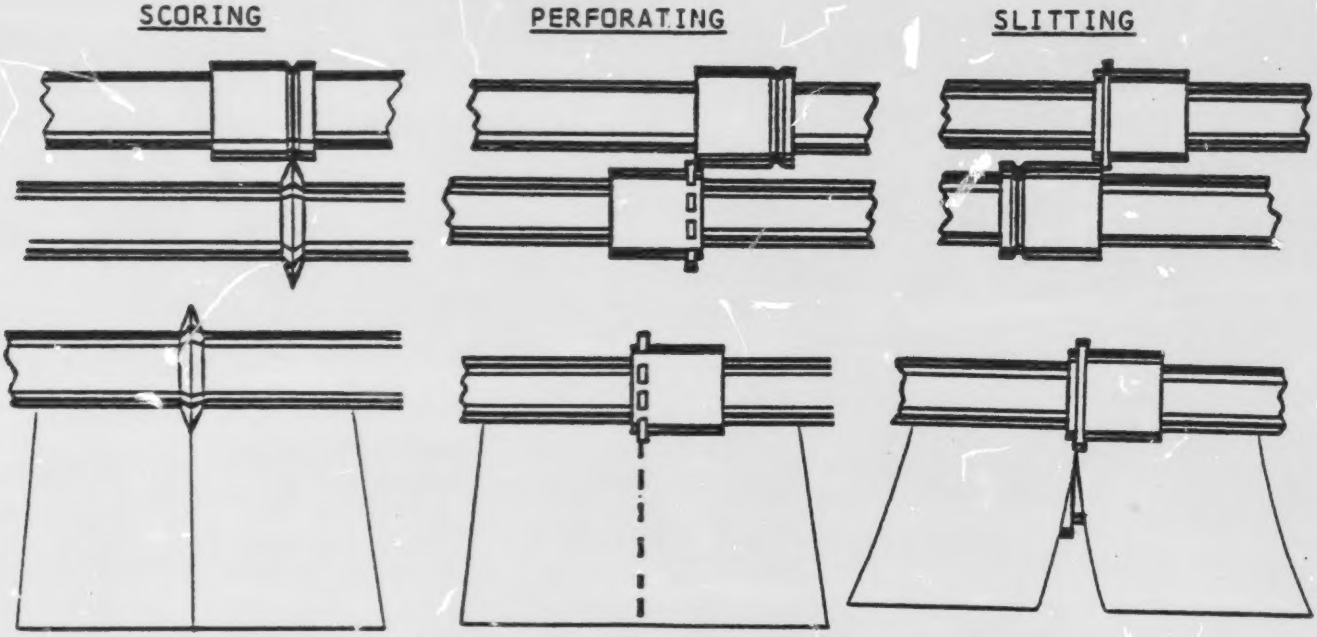
SLITTING: PAPER CAN ACTUALLY BE CUT APART AS IT COMES OFF THE FOLDER. THIS IS CALLED SLITTING.

READ OVER THE INSTRUCTIONS FOR SCORING, PERFORATING, AND SLITTING ON THE NEXT PAGE AND REVIEW THE BASIC PARTS OF THE FOLDER. BE SURE TO CAREFULLY DOUBLE CHECK ALL SETTINGS (IT IS EASY TO QUICKLY DULL OR WEAR OUT A PERFORATOR OR SLITTING ROLLER IF IT IS ACCIDENTLY LEFT ON THE LOWER COMPANION ROLLER WHILE RUNNING).

INFORMATION

SCORING, PERFORATING AND SLITTING:

THESE ARE THE SETTINGS FOR THE ATTACHMENTS ON THE ACCESSORY BARS:



TO VIEW THE ACCESSORY BARS, REMOVE THE UPPER FOLD PLATE. TO SLIT OR PERFORATE, THE UPPER CUTTERS MUST BE POSITIONED ABOVE AND AGAINST THE LOWER COMPANION ROLLERS. TO SCORE THE UPPER BRASS ROLLER FITS IN THE "V" SLOT OF ITS LOWER COMPANION ROLLER.

FOR BEST RESULTS, THE RUBBER GUIDES SHOULD BE POSITIONED OUTSIDE THE ABOVE ATTACHMENTS. HOWEVER, THEY SHOULD BE IN CONTACT WITH THE PAPER PASSING THROUGH.

SET POSITION

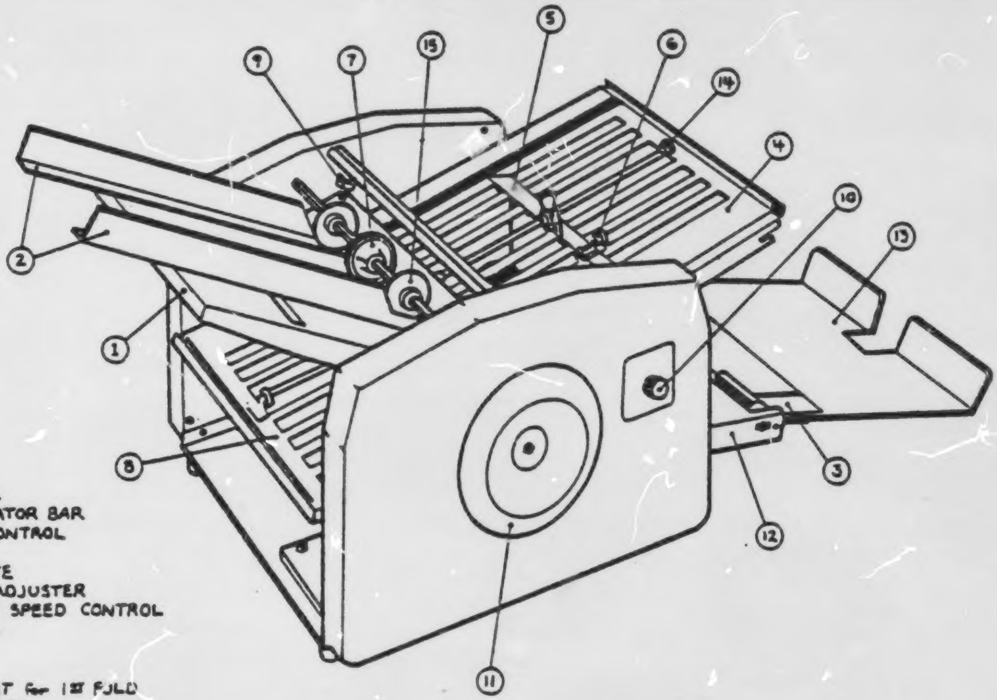
WITH UPPER FOLD PLATE REMOVED, MARK A SHEET OF PAPER WHERE IT IS TO BE SCORED, PERFORATED OR SLIT. PASS THE PAPER, BY HAND, INTO THE MACHINE UNTIL IT MAKES CONTACT WITH ACCESSORY BAR. SET LOWER ROLLERS ON THE MARK, THEN TIGHTEN WITH AN ALLEN WRENCH. THEN MOVE UPPER CUTTERS INTO PLACE AND REPLACE UPPER FOLD PLATE.

JOB STEPS

1. DO MODULE #1401 14 023, USING A SMALL TABLE MODEL FOLDER, IF YOU HAVE NOT ALREADY DONE SO.

2. READ OVER THE INSTRUCTIONS FOR SCORING, PERFORATING, AND SLITTING IN THE INFORMATION PAGES.

3. LEARN THE PARTS OF THE FOLDER. WATCH SOME ADVANCED STUDENTS RUN THE FOLDER FOR ONE HOUR. ASK QUESTIONS.



1. FEED TABLE
2. PAPER GUIDE
3. FOLD CHART
4. UPPER FOLD PLATE
5. UPPER FOLD INDICATOR BAR
6. ANGULAR BAR CONTROL
7. FEED ROLLER
8. LOWER FOLD PLATE
9. ROLLER TENSION ADJUSTER
10. ON-OFF SWITCH & SPEED CONTROL
11. HAND FEED KNOB
12. EXIT TABLE
13. RECEIVING TRAY
14. MICRO ADJUSTMENT for 1ST FOLD
15. PAPER GUIDE ROLLER

WORD GUIDE

GATE - A FOLDING GATE (OR PLATE) IS THE NARROW AREA WHERE THE PAPER ENTERS ON A FOLDER; WHEN THE PAPER HITS THE BAR STOP IN THE GATE, IT WILL BUCKLE AND FOLD.

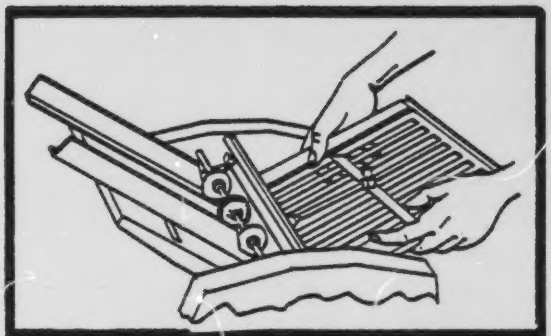
JOB STEPS

4. TAKE YOUR EQUIPMENT TO THE FINISHING AREA TO WORK.

5. CHECK THE FOLDER TO BE SURE IT IS RUNNING OK.

6. SET THE FEED TABLE AND GUIDES, FEED ROLLER AND STACKING WHEELS SO THAT THE 8 1/2" SIDE GOES THROUGH THE FOLDER WIDTH-WISE (5 1/2" IS THE LENGTH).

7. TAKE OFF THE UPPER FOLD PLATE (OR GATE).

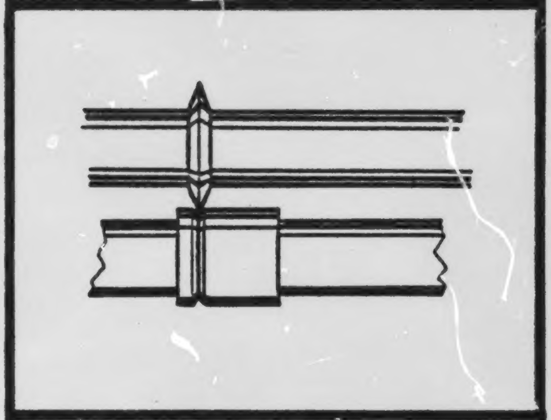


8. ADJUST THE ACCESSORY WHEELS WITH THE ALLEN WRENCH.

9. SCORING:

A. SET THE BRASS ROLLER SO IT EASILY FITS INTO THE "V" SLOT OF ITS LOWER COMPANION ROLLER.

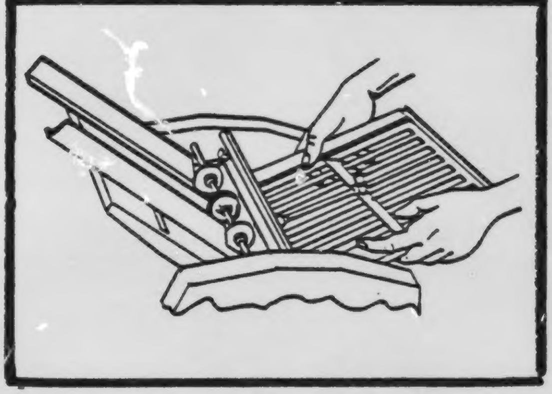
B. USING THE ALLEN WRENCH CAREFULLY, FIT THE WRENCH SNUGLY IN THE SET SCREW AND TURN FIRMLY (BUT NOT TOO TIGHT).



C. CHECK TO SEE THAT ALL ROLLERS ARE AT LEAST 2 CM APART SO THEY WON'T MAKE MARKS ON THE PAPER.

NOTE: BOTH RUBBER GUIDE ROLLERS MUST BE IN CONTACT WITH THE SHEET OF PAPER TO HELP HOLD AND DRIVE THE SHEET THROUGH THE ASSEMBLY AND INTO THE STACKING WHEELS.

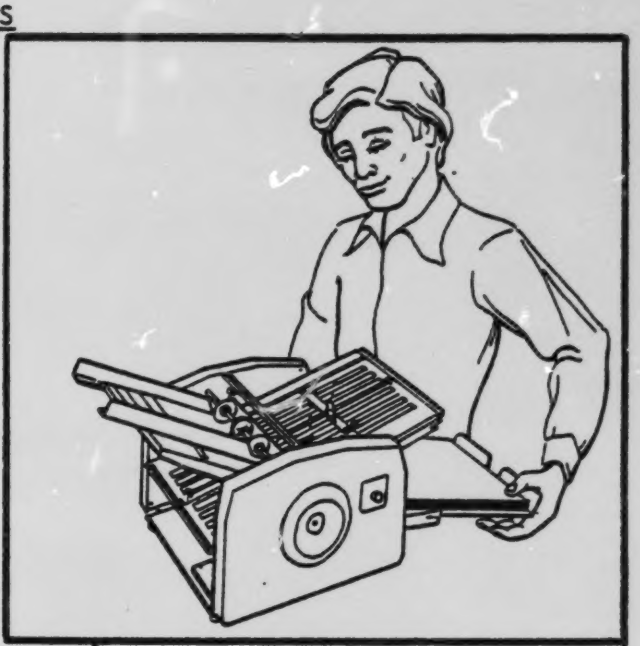
D. REPLACE THE UPPER FOLD PLATE SO THE DEFLECTOR EDGE IS IN TO THE ROLLERS AND PROPERLY SEATED.



WORD GUIDE

JOG - JIGGLE, SHUFFLE, MOVE OR SHAKE.

JOB STEPS



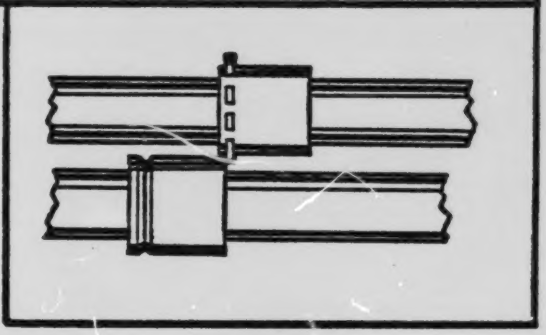
E. RUN A SHEET OF PAPER THROUGH BY HAND TO CHECK SCORE (IT DOES NOT HAVE TO BE EXACTLY IN THE CENTER FOR THIS MOD).

F. CHECK THE BRASS WHEEL AGAIN TO BE SURE IT IS PROPERLY SEATED IN THE "V" SLOT.

G. RUN ABOUT 50 SHEETS. DO NOT EXCEED #2 ON THE SPEED CONTROL.

H. JOG TOGETHER THE PILE OF 50 SHEETS. LOOK AT THEM TO SEE IF ALL 50 SHEETS ARE SCORED IN THE SAME PLACE.

10. PERFORATING:



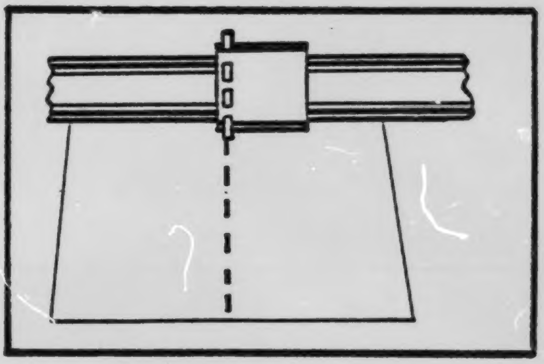
A. SET THE PERFORATING ROLLER AGAINST THE SIDE OF THE LOWER COMPANION ROLLER (NOT IN THE "V" SLOT).

B. BE SURE TO MOVE THE BRASS SCORING ROLLER AWAY AND TO GENTLY LOCK THE SET SCREW ON THE FLAT PART OF THE BAR.

C. RUN A SHEET THROUGH BY HAND.

D. DOUBLE-CHECK THE PERFORATING ROLLER AND COMPANION ROLLER POSITIONS.

E. RUN 50 SHEETS.



F. JOG THE PAPERS TO SEE IF ALL SHEETS ARE PERFORATED IN THE SAME PLACE.

G. CHECK YOUR WORK. YOU SHOULD BE ABLE TO EASILY FOLD THE SHEETS ON AND THEN TEAR IT ALONG THE PERFORATION.

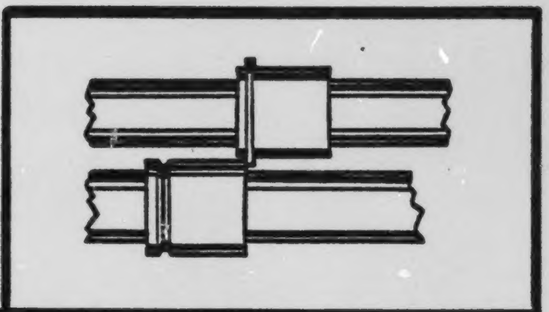
WORD GUIDE

ENGAGED - READY TO OPERATE.

JOB STEPS

11. SLITTING:

A. SET THE SLITTING ROLLER AGAINST THE SIDE OF THE LOWER COMPANION ROLLER (NOT IN THE "V" SLOT).

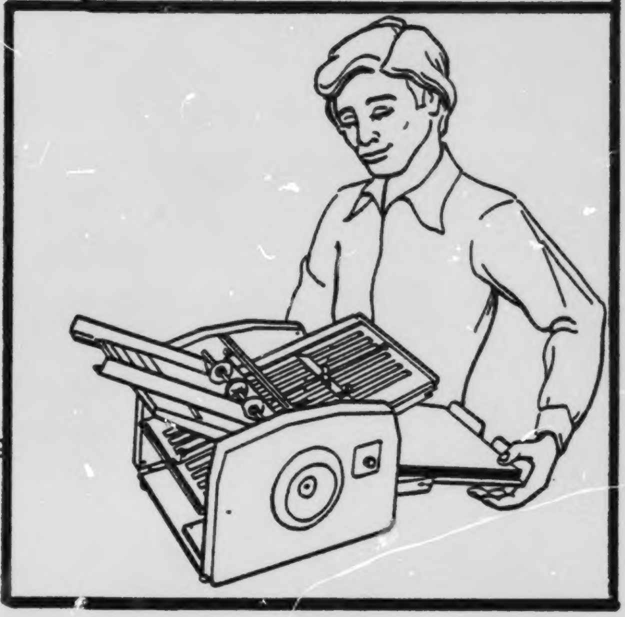


B. BE SURE TO MOVE THE BRASS SCORING ROLLER AWAY AND TO GENTLY LOCK THE SET SCREW ON THE FLAT PART OF THE BAR.

C. RUN A SHEET THROUGH BY HAND.

D. DOUBLE-CHECK THE SLITTING ROLLER AND COMPANION ROLLER POSITIONS.

E. RUN 50 SHEETS.



F. JOG THE PAPERS TO SEE IF ALL SHEETS ARE SLIT IN THE SAME PLACE.

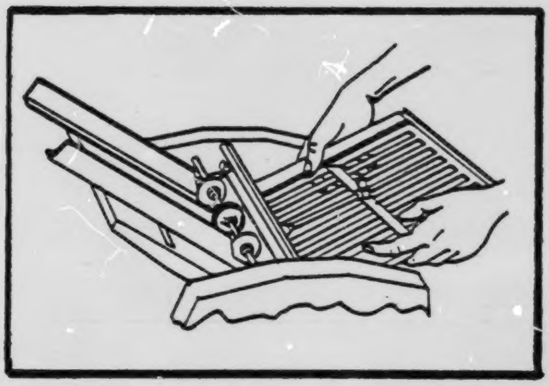
G. CHECK YOUR WORK. SHEETS SHOULD EASILY SLIT ALONG THE CUT. THE CUT SHOULD BE CLEAN, IF THE WHEEL IS SHARP (THE SLITTING WHEEL WILL DULL QUICKLY IF NOT CARED FOR PROPERLY).

12. ASK YOUR INSTRUCTOR TO CHECK YOUR WORK AND YOUR MACHINE. BE READY TO ANSWER QUESTIONS.

13. CLEAN UP YOUR WORK AREA.

14. PLACE ALL THE ROLLERS SO THEY ARE NOT ENGAGED AND WILL NOT LEAVE ANY MARKS ON THE PAPER.

15. REPLACE THE UPPER FOLD PLATE SO IT IS ENGAGED.



16. RETURN THE ALLEN WRENCH.

17. READ THE "SIMPLIFIED FOLDING CHART" IN YOUR CLASSROOM. ASK QUESTIONS IF YOU HAVE ANY.

graphics

unit: FINISHING AND BINDERY

capital area career center

module: 1401 14 025
1401 14 025 3 **date:** DECEMBER 1977 **level:**

skill title: FOLDER: BASIC OPERATION OF A BAUM FOLDER

developed & written by: GLEN PETTIT

visuals by: STEVE BRAMER

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO OPERATE A BAUM FOLDER.

IN ORDER TO DO THIS YOU WILL NEED:

8½" X 11" WHITE 20# SCRAP PAPER

BAUM FOLDER

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN FOLD 100 SHEETS OF 8½" X 11" 20# WHITE PAPER IN HALF WITHOUT LOSS AND WITH 100% ACCURACY.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

BUCKLE FOLDER - A FOLDER THAT FOLDS BY PULLING PAPER BETWEEN TWO ROLLERS.

VACUUM FEED - THE PAPER IS SUCKED UP LIKE DIRT IN A VACUUM CLEANER (LIKE THE OFFSET PRESSES).

FRICTION FEED - THE PAPER IS FORCED OUT LIKE STONES UNDER A SPINNING TIRE (LIKE THE SMALL TABLE MODEL FOLDER).

INFORMATION

THE BAUM FOLDER IS A HIGH SPEED, HIGH VOLUME BUCKLE FOLDER AND IS FOUND IN MOST LARGE AND MEDIUM SIZE PRINT SHOPS. THEY COME IN MANY SIZES WITH EITHER VACUUM OR FRICTION FEED SYSTEMS. THEY CAN DO MANY DIFFERENT JOBS, SOMETIMES SEVERAL AT ONE TIME. THERE ARE MANY DIFFERENT ATTACHMENTS AVAILABLE.

THIS IS NOT A MACHINE THAT YOU MASTER IN ONE OR TWO HOURS, SO DON'T FEEL BADLY IF THINGS DON'T GO RIGHT THE FIRST TIME. EVEN THE EXPERIENCED OPERATOR HAS BAD DAYS WITH THE BAUM FOLDER. MOST PRINTERS FEEL IT IS AS HARD, IF NOT HARDER, TO PROPERLY RUN A FOLDER AS IT IS TO RUN AN OFFSET PRESS.

WORD GUIDE

RESET BUTTON - A FUSE THAT DOES NOT HAVE TO BE REPLACED.

RATCHET - A WHEEL WITH ONE WAY SLOPPING TEETH.

RATCHET PAWL - A CATCH THAT KEEPS THE RATCHET WHEEL FROM TURNING BACKWARDS.

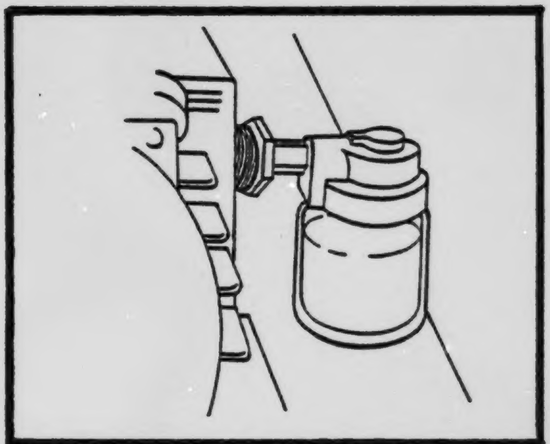
JOB STEPS

1. READ ALL OF THE JOB STEPS, STUDY THE DRAWINGS, LOOK OVER THE BAUM FOLDER OPERATION MANUAL AND THE BAUM FOLDER BEFORE GOING ON.

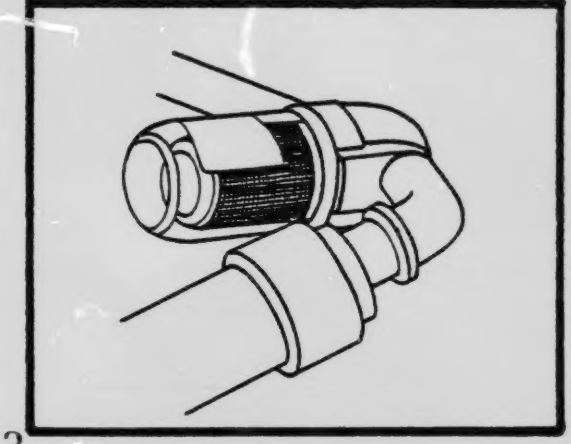
2. GET A PILE OF ABOUT 500 SHEETS OF 8½" X 11", 20# WHITE SCRAP PAPER AND TAKE IT TO THE FEED TABLE.

3. CHECK TO SEE THAT THE MACHINE IS PLUGGED INTO THE WALL SOCKET AND THE MAIN SWITCH IS ON.

4. CHECK THE AIR PUMP OIL BOTTLE TO SEE THAT IT IS FILLED WITH OIL TO THE OIL LINE.



5. CHECK THE AIR FILTER IN THE GLASS OR PLASTIC BOTTLE TO SEE THAT IT IS CLEAN.



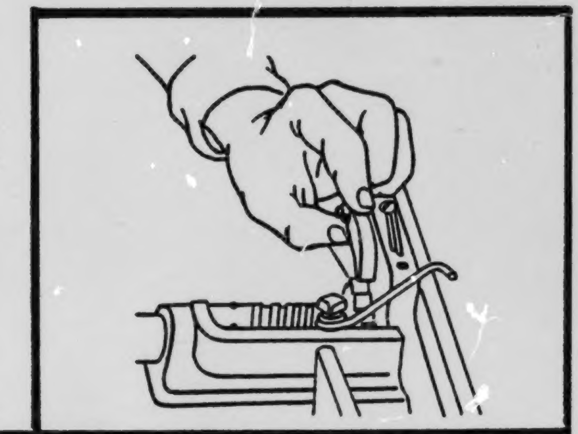
JOB STEPS

6. ASK YOUR INSTRUCTOR WHEN THE MACHINE WAS LAST OILED. HARDWOOD BUSHING ARE USED IN THIS MACHINE AND THEY REQUIRE GOOD OILING HABITS. ALL OIL HOLES ARE PAINTED RED. USE AT LEAST A 20 WEIGHT OIL.

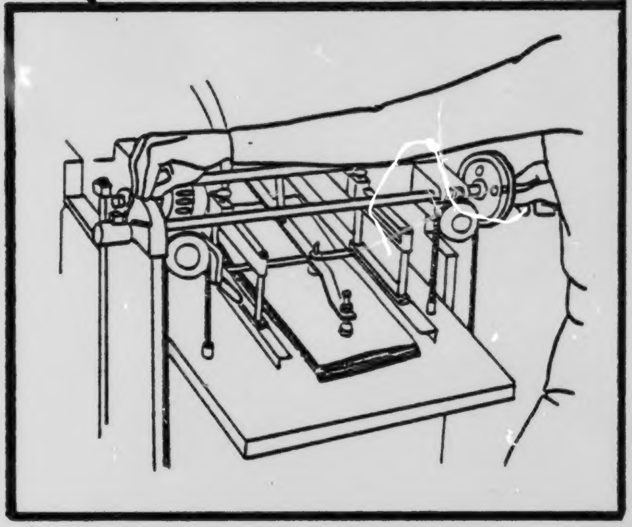
7. LOCATE THE TWO MACHINE POWER SWITCHES.

8. LOCATE THE MACHINE FUSE BOX AND RESET BUTTON.

9. LOCATE AND RAISE THE FEED TABLE RATCHET PAWL.

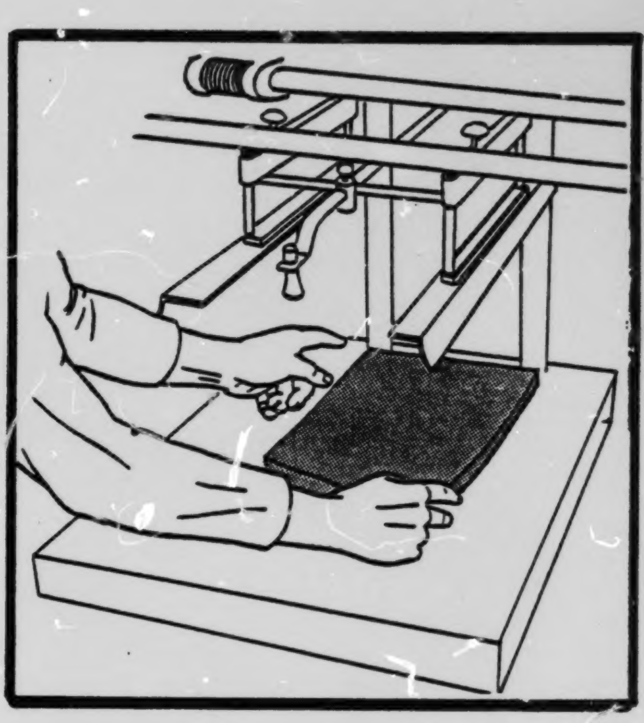


10. LOWER THE FEED TABLE WITH THE HAND CRANK.

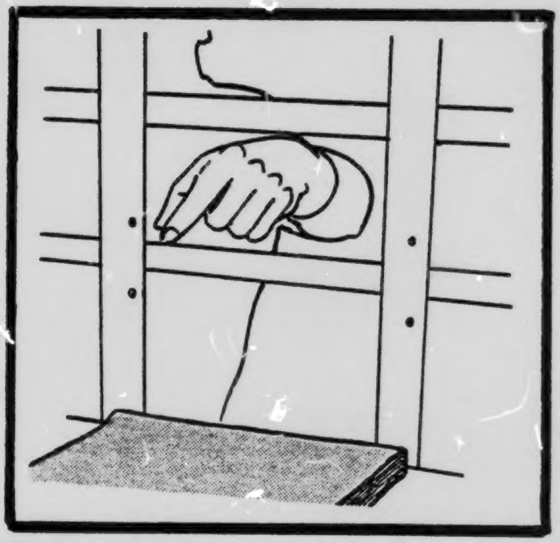


JOB STEPS

11. PUT THE PAPER IN THE FRONT LEFT CORNER OF THE FEED TABLE.

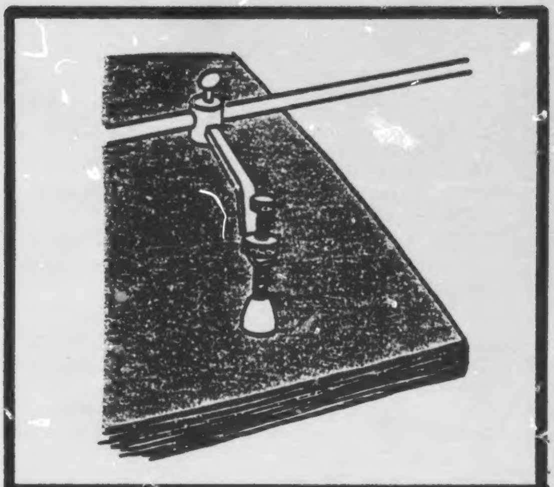


12. CHECK THE VERTICAL PILE GUIDES FOR POSITION.

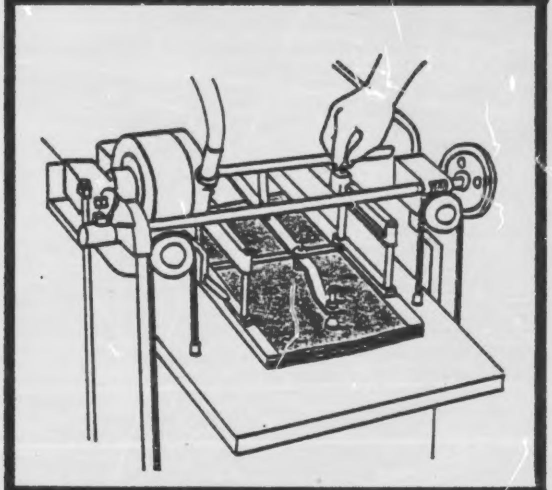


JOB STEPS

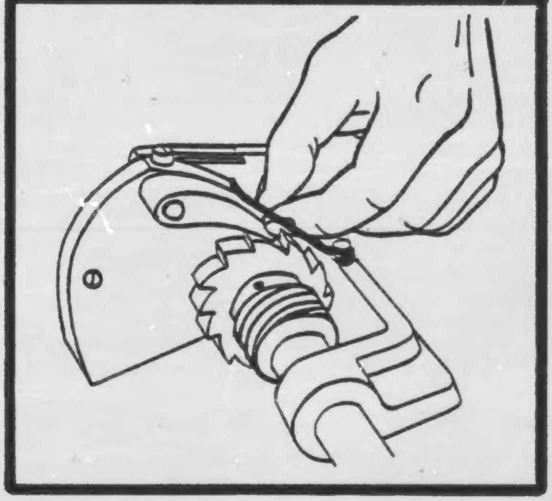
13. RAISE THE FEED TABLE TO WITHIN 1/2" OF THE RUBBER FOOT ON THE PILE HEIGHT SCREW.



14. HAVE THE INSTRUCTOR CHECK THE HORIZONTAL PILE GUIDES.



15. LOWER THE RATCHET PAWL TO THE RATCHET. TURN THE PAWL LOCK OVER TO THE PAWL.

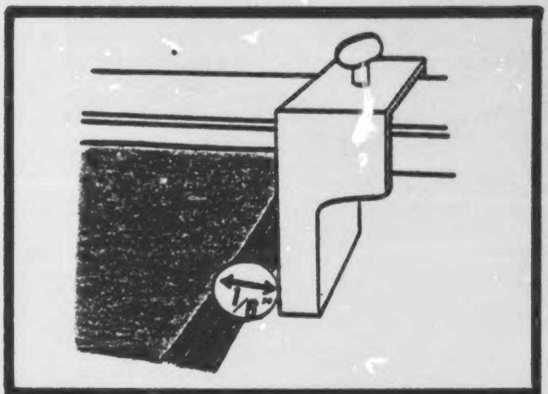


WORD GUIDE

SUCKER WHEEL - A TURNING WHEEL WITH HOLES CONNECTED TO THE VACUUM PUMP.

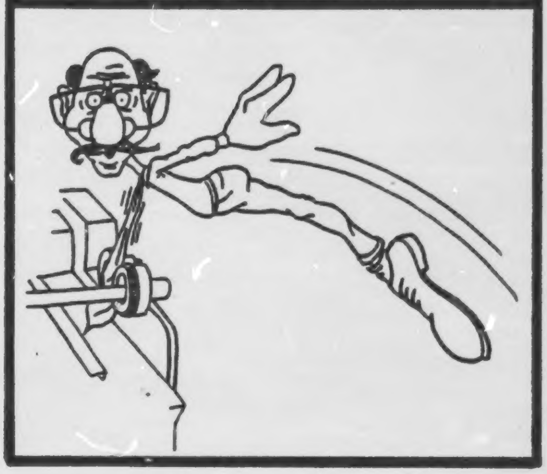
JOB STEPS

16. POSITION THE SHEET BACK STOPS SO THERE IS ABOUT 1/16 INCH SPACE BETWEEN THE BACK STOPS AND THE SHEETS.

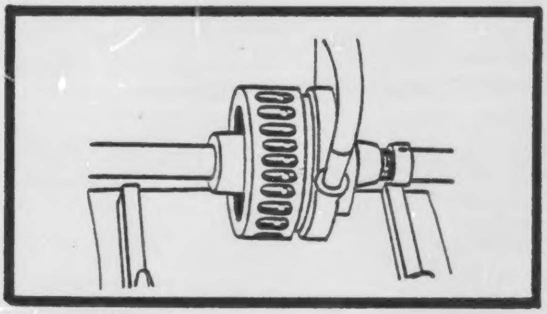


17. TURN THE FEED POWER SWITCH ON AND LET THE FEED TABLE RISE AUTOMATICALLY. WHEN IT STOPS MOVING TURN OFF THE FEED POWER SWITCH.

CAUTION: THIS MACHINE HAS MANY MOVING ROLLERS, BELTS AND GEARS. KEEP YOUR SHIRT SLEEVES ROLLED UP AND TIES TUCKED IN SHIRTS.



18. THERE SHOULD BE ABOUT 5/8" BETWEEN THE PAPER PILE AND THE SUCKER WHEEL.



19. THE SUCKER WHEEL WORKS BEST IF IT IS LOCATED NEAR THE CENTER OF THE PAPER PILE.

20. CHECK TO SEE THAT AS MANY REGISTER TAPES AS POSSIBLE ARE UNDER THE SHEETS AS THEY MOVE ALONG THE REGISTER TABLE.

WORD GUIDE

MICROMETER ADJUSTMENT - TO MOVE A VERY SMALL DISTANCE, A 1/64, 2 MM.

CALIPER - INSTRUMENT THAT MEASURES THE THICKNESS OF ONE SHEET OF PAPER AND WILL STOP THE FEED IF MORE THAN ONE SHEET TRIES TO PASS UNDER (ALSO CALLED A 2-SHEET DETECTOR.

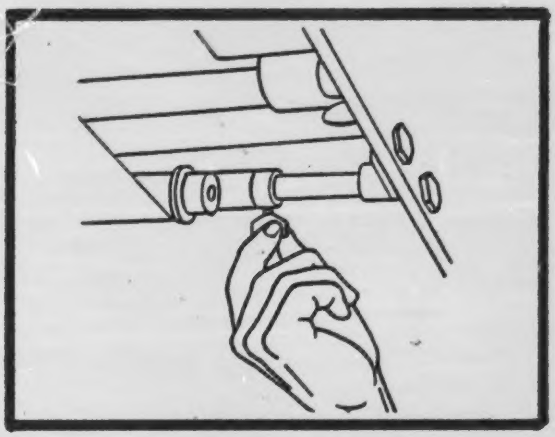
BLOW BAR - A LONG MOVEABLE BAR WITH HOLES FOR AIR, LIKE THE SPRAY ARMS ON FARM SPRAY RIGS.

BUTTERFLY VALVE - A VALVE WITH A MOVEABLE COVER THAT LOOKS LIKE ONE WING OF A BUTTERFLY, LOCATED ON THE BLOWER AND VACUUM HOSES.

THROW OFF ROD - THE LONG ROD THAT IS THROWN OFF WHEN THE CALIPER MEASURES MORE THAN ONE SHEET OF PAPER. YOU CAN TURN IT OFF YOURSELF ANYTIME TO START THE FEEDING.

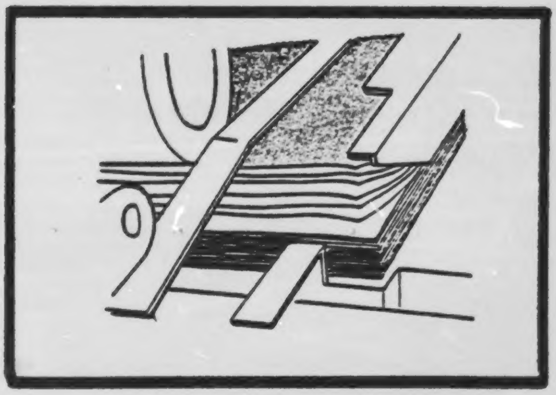
JOB STEPS

21. ADJUST TAPE TENSION FROM UNDER THE REGISTER TABLE. THE TAPES RUN OVER WOODEN SPOOLS ON MOVEABLE ARMS AND ARE ADJUSTED WHILE THE MACHINE IS RUNNING.



22. HAVE YOUR INSTRUCTOR/MANAGER SHOW YOU THE REGISTER GUIDE ADJUSTMENT, MICROMETER ADJUSTMENT, MARBLE RACK ADJUSTMENT, TUCK IN SHOES, HOLD DOWN RODS, 2-SHEET CALIPER, BLOW BAR ROLLER SPRING TENSION ADJUSTERS, BUTTERFLY VALVES AND THROW OFF ROD.

23. TURN ON VACUUM PUMP AND ADJUST BLOW BAR TO RAISE 5 TO 8 SHEETS SO THEY FLUTTER ABOVE THE PILE.



WORD GUIDE

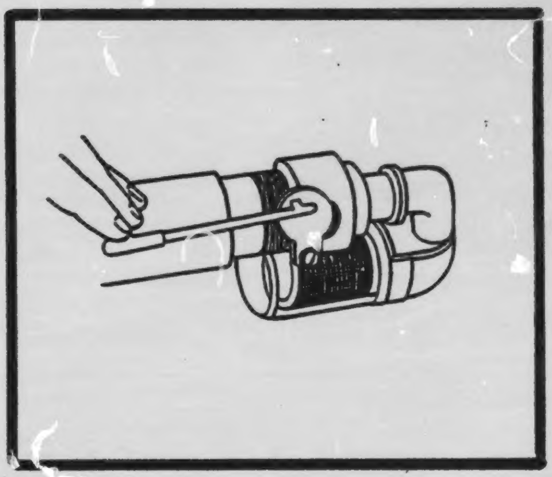
FOLD PLATES - THE PLATES THAT CONTROL THE PROPER DISTANCE OF THE FOLD.

DEFLECTORS - A BAR THAT IS FOLDED DOWN WHEN YOU DON'T WANT PAPER TO GO IN A CERTAIN FOLD PLATE.

STEPS

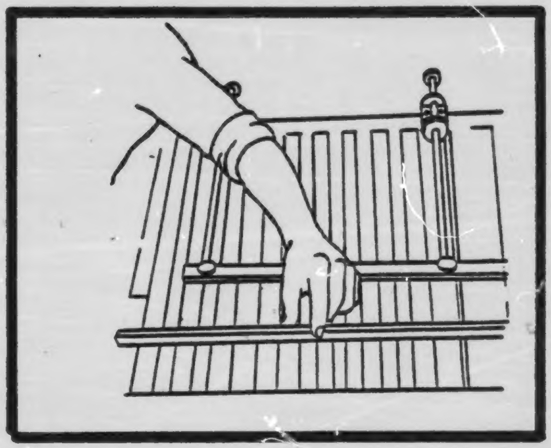
JOB STEPS

24. ADJUST BUTTERFLY ON BLOW SIDE TO RAISE THE TOP SHEET SO IT TOUCHES THE SUCKER WHEEL.



25. TURN OFF VACUUM.

26. HAVE YOUR INSTRUCTOR/MANAGER SHOW YOU THE FOLD PLATES AND DEFLECTORS, THE THUMB SCREW ADJUSTMENTS, MICROMETER ADJUSTMENTS AND THE SCALES.

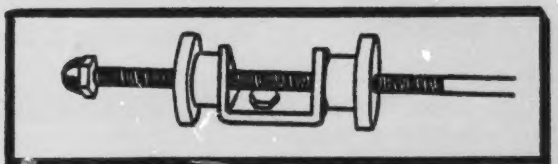


27. CHECK ALL THE DEFLECTORS IN THE FOLD PLATES.

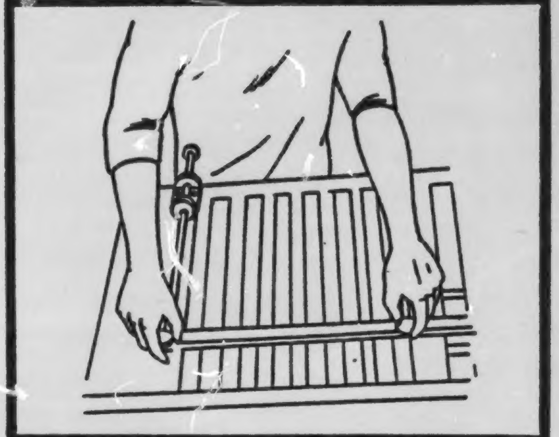
NOTE: BE SURE THAT ALL DEFLECTORS IN THE FOLD PLATES ARE DOWN, EXCEPT FOR THE UPPER FOLD PLATE THAT YOU ARE USING.

JOB STEPS

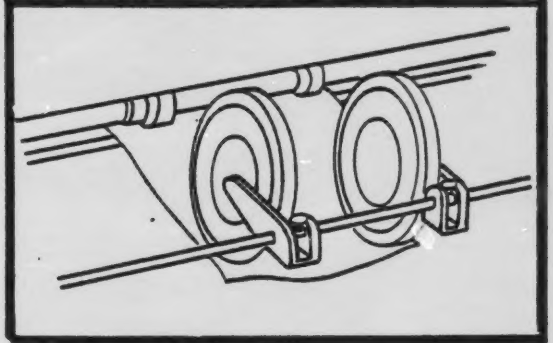
28.A. SET THE UPPER FOLD PLATE MICROMETER ADJUSTMENT IN THE CENTER POSITION (1/2 THE THREADS ABOVE AND BELOW THE ADJUSTMENT).



28.B. ADJUST THE UPPER FOLD PLATE TO FOLD AT 5 1/2".



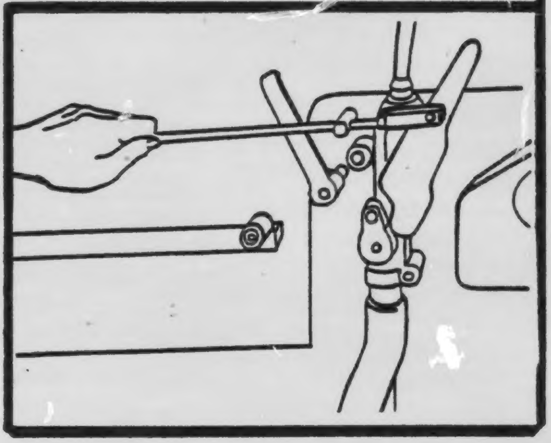
29. CHECK TO SEE THAT THE STACKING TABLE AND STACKING WHEELS ARE IN POSITION FOR A 5½" DELIVERY.



30. CHECK TO SEE THAT THERE ARE NO ATTACHMENTS OR TOOLS ON THE MACHINE.

31. TURN BOTH MACHINE POWER SWITCHES ON.

32. PULL THE THROW OFF ROD AND LET ONE SHEET GO.



33. CHECK THE SHEET TO SEE THAT IT IS FOLDED SQUARE AND IN HALF. MAKE ADJUSTMENTS IF NECESSARY.

34. PULL THROW OFF ROD AGAIN AND LET TWO SHEETS GO.

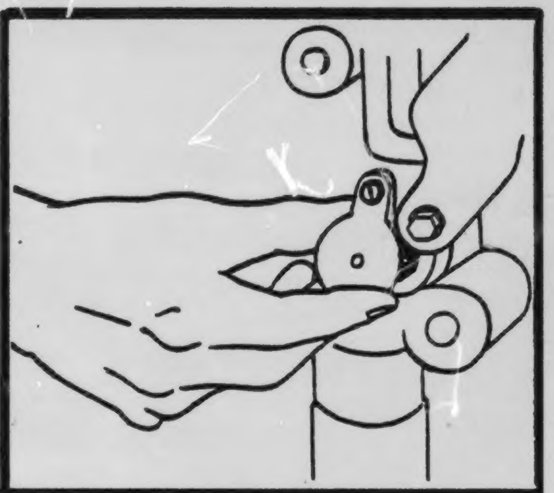
WORD GUIDE

SPACING SPEED CHANGE - CONTROLS THE SPACE BETWEEN THE SHEETS OF PAPER BY HOW FAST THE SUCKER WHEEL TURNS.

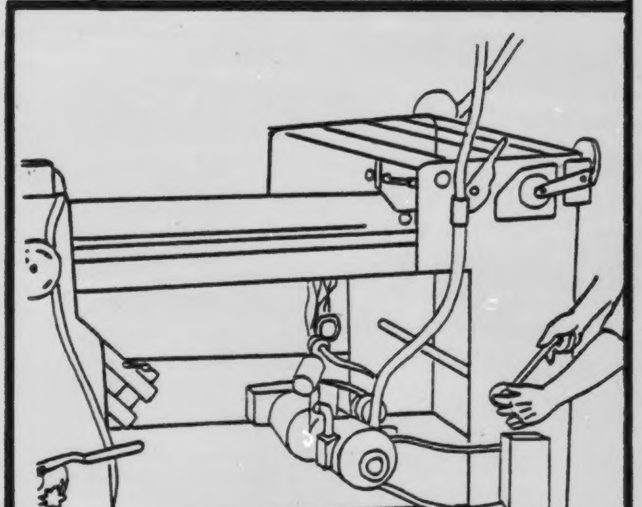
FEED SPEED CHANGE - CONTROLS HOW FAST THE PAPER GOES DOWN THE REGISTER TABLE.

JOB STEPS

35. PUSH THROW OFF ROD BACK AND WATCH THE FOLDED SHEETS HIT THE STACKING WHEELS. IF THEY ARE TOO CLOSE OR TOO FAR AWAY, ADJUST THE DELIVERY STACKING WHEELS.



36. IF THE SHEETS ARE FOLDING CORRECTLY YOU ARE READY TO START. PULL THE THROW OFF ROD AND LOCATE THE SUCTION WHEEL BUTTERFLY ADJUSTMENT. ADJUST IT SO IT WILL JUST PICK UP ONE SHEET AT A TIME. WHEN YOU CHANGE SPEED, THE BUTTERFLY ADJUSTMENT MUST ALSO BE CHANGED.



37. LOCATE THE SPACING SPEED CHANGE LEVER AND FEED SPEED CHANGE LEVER. ADJUST THE SPACING SO THAT THERE IS AT LEAST 2" BETWEEN SHEETS.

NOTE: THE FEED SPEED CHANGE LEVER IS FOR CHANGING THE SPEED OF THE PAPER ACROSS THE REGISTER TABLE. THE SPEED IS CONTROLLED BY THE KIND OF PAPER AND THE TYPE OF FOLD BEING MADE.

JOB STEPS

38. COLLECT THE FOLDED PAPER ON THE STACKING TABLE. CHECK OFTEN FOR ACCURACY.

39. IF THE FOLDER JAMS, IMMEDIATELY PUSH THE THROW OFF ROD IN AND TURN OFF THE TWO MACHINE SWITCHES.

40. CORRECT THE JAM BY MAKING YOUR ADJUSTMENTS AGAIN (DO STEPS 32-37 AGAIN).

NOTE: THE 2-SHEET CALIPER WILL PULL IN THE THROW OFF ROD IF MORE THAN ONE SHEET IS FED IN.

graphics

unit: FINISHING AND BINDERY

capital area career center

1401 14 026
module: 1401 14 026 3 **date:** DECEMBER 1977 **level:** IV

skill title: FOLDER: SIGNATURE AND RIGHT ANGLE FOLDING ON A BAUM FOLDER

developed & written by: JAMES WOODRUFF

visuals by: STEVE BRAMER

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO OPERATE THE BAUM FOLDER. TO MAKE SIGNATURE AND RIGHT ANGLE FOLDS.

AND IN ORDER TO DO THIS YOU WILL NEED:

8 1/2" X 11" 20# WHITE SCRAP PAPER

THE BAUM FOLDER

THE BAUM CROSS CARRIER

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN NEATLY FOLD 100 SHEETS OF 8 1/2" X 11" INTO FOUR (4) SECTIONS (RIGHT ANGLE FOLD).

A TAPE OF THIS MODULE IS AVAILABLE.

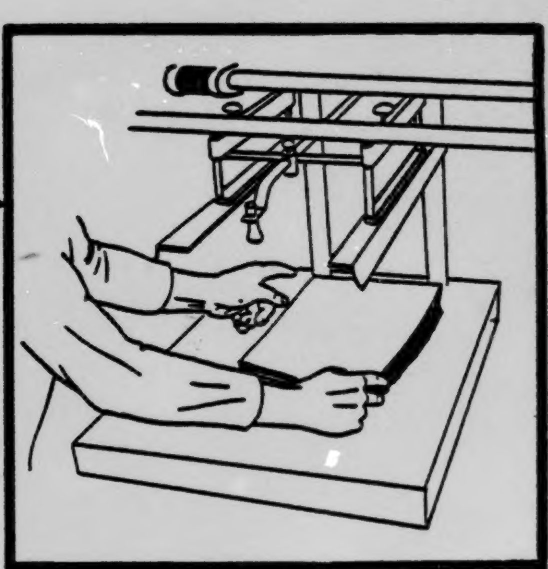
INFORMATION

THE CROSS CARRIER IS USED TO MAKE RIGHT ANGLE AND SIGNATURE FOLDS. ONE OR MORE CROSS CARRIERS MAY BE USED AT ONE TIME, BUT YOU WOULD USUALLY FIND ONLY ONE IN SMALL AND MEDIUM SIZED SHOPS. IN LARGE PLANTS, GIANT FOLDERS WITH MANY CROSS CARRIERS ARE USED FOR FOLDING MAPS, BOOK SIGNATURES AND SO ON.

JOB STEPS

1. READ ALL OF THE JOB STEPS, STUDY THE DRAWINGS, LOOK OVER THE CROSS CARRIER AND THE OPERATION MANUAL BEFORE GOING ON. YOU MUST HAVE COMPLETED MODULE 1401 14 025 (BASIC OPERATION OF A BAUM FOLDER) BEFORE STARTING THIS MODULE, AND HAVE DONE SEVERAL PRODUCTION JOBS ON THE FOLDER.

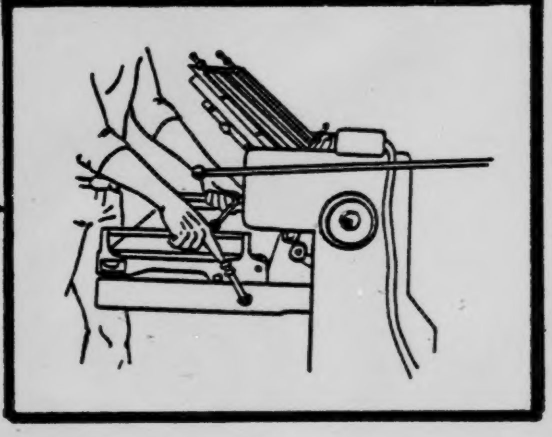
2. TAKE A PILE OF ABOUT 500 SHEETS OF 8 1/2 X 11 20# WHITE SCRAP PAPER TO THE FOLDER FEED TABLE.



3. CHECK THE OIL BOTTLE AND THE DATE WHEN THE MACHINE WAS OILED LAST.

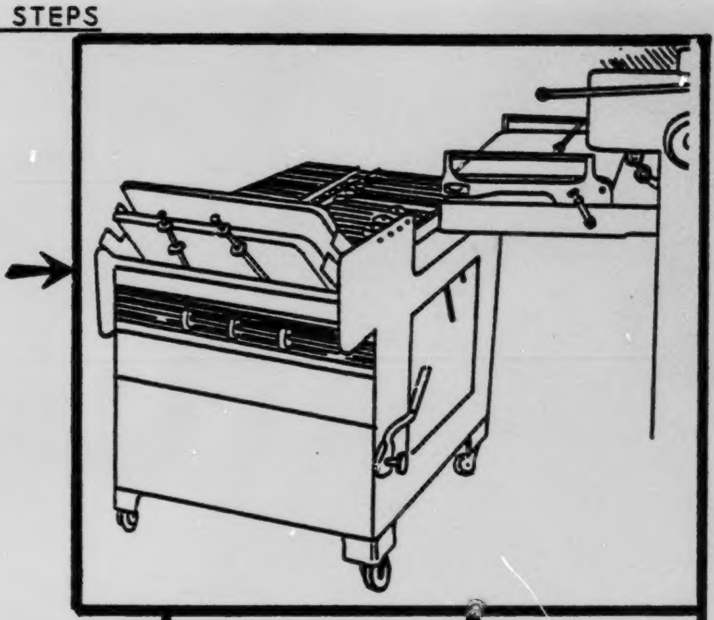
4. CHECK TO SEE IF THE FOLDER IS PLUGGED INTO THE WALL SOCKET.

5. REMOVE THE STACKING TABLE AND SUPPORTS.

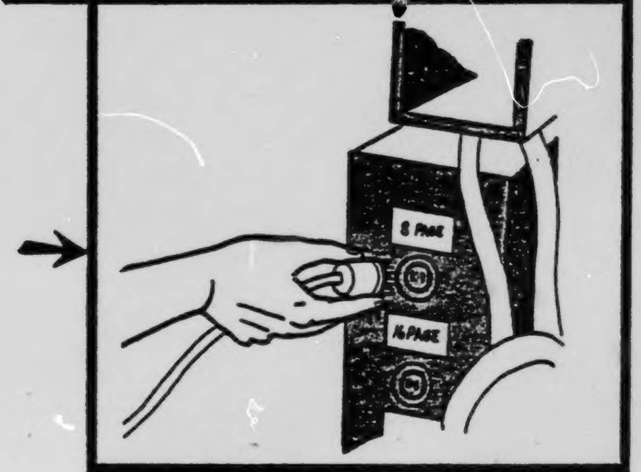


JOB STEPS

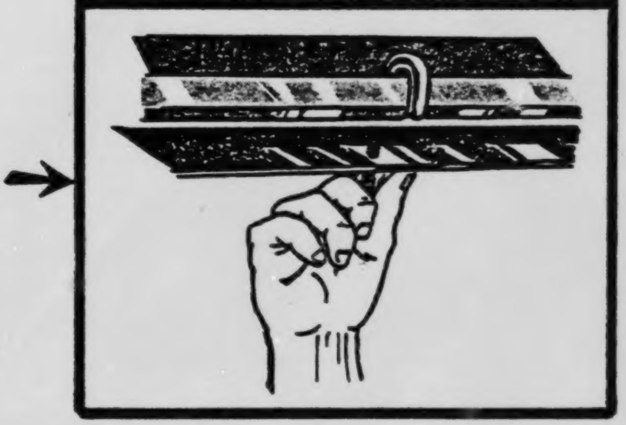
6. ROLL THE CROSS CARRIER TO THE FRONT OF THE FOLDER AT A RIGHT ANGLE.



7. PLUG THE CROSS CARRIER INTO THE FUSE BOX AT THE 8 PAGE PLUG.



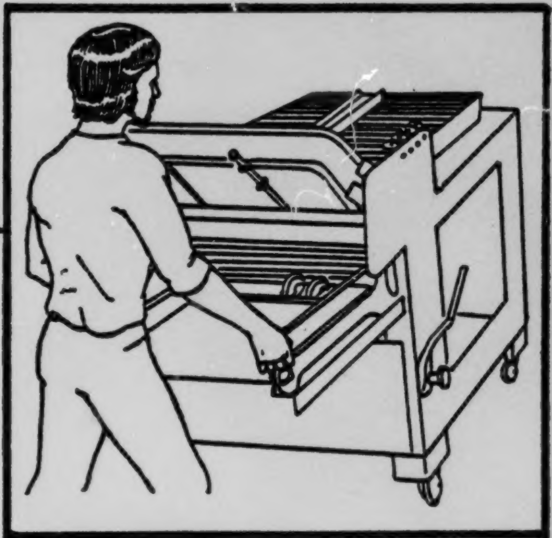
8. LOCATE THE HOLD DOWN BOLT UNDER THE CROSS CARRIER AND PLACE THE HOOKED END OF THE BOLT OVER THE CROSS BAR OF THE FOLDER. TIGHTEN THE WING NUT.



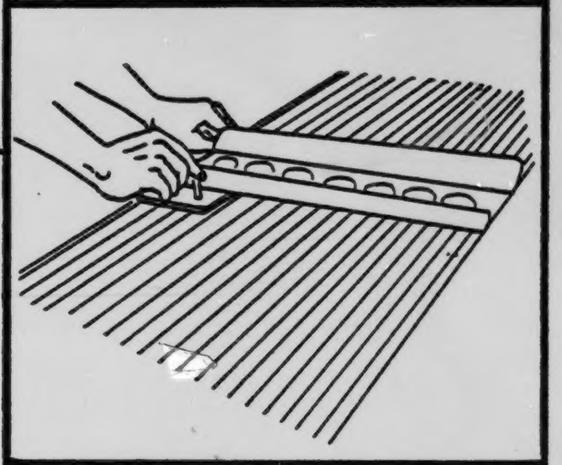
NOTE: MAKE SURE THE CROSS CARRIER IS NOT RUBBING THE HAND WHEEL OF THE FOLDER.

JOB STEPS

9. PLACE THE STACKING TABLE AND SUPPORTS ON THE FRONT END OF THE CROSS CARRIER.

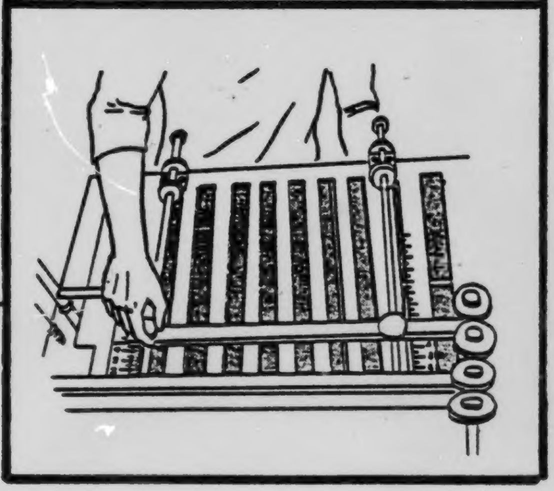


10. SET THE CROSS-OVER HOLD DOWN SO THE FOLDED PAPER GOES OVER FOR ENOUGH TO MISS THE GEARS ON THE RIGHT ANGLE FOLDER.



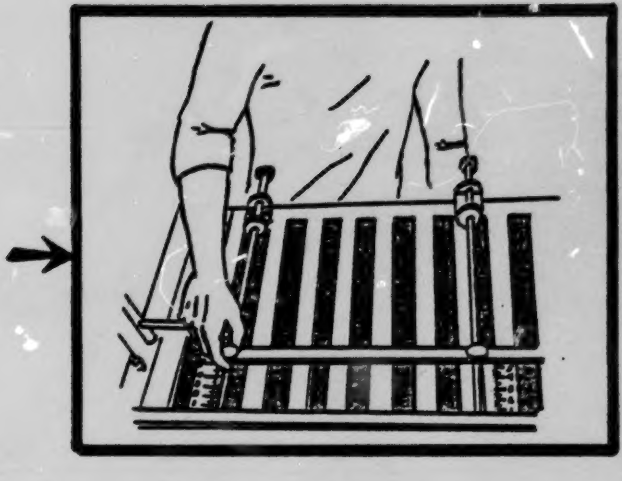
11. IN THE CROSS CARRIER, CHECK TO SEE THAT THE DEFLECTOR PLATE IS "OFF" IN THE NUMBER ONE (1) FOLD PLATE AND "ON" IN ALL THE REST OF THE FOLD PLATES.

12. ADJUST THE NUMBER ONE FOLD PLATE TO FOLD ON THE CROSS CARRIER AT 4 1/4 INCHES.



JOB STEPS

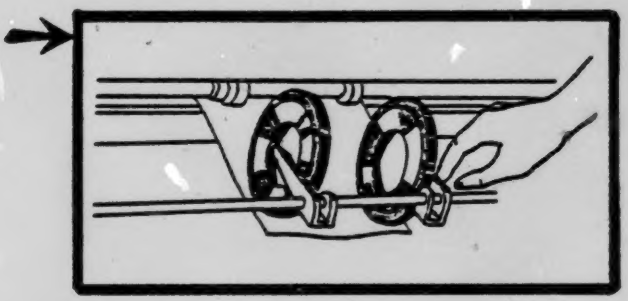
13. SET THE NUMBER ONE (1) FOLD PLATE ON THE MAIN UNIT TO 5 1/2 INCHES.



14. TURN ON THE TWO (2) MACHINE POWER SWITCHES. LET ONE SHEET GO THROUGH. CHECK IT FOR NEATNESS IN FOLDING (FINAL FOLDED SIZE IS 5 1/2 X 4 1/4").

NOTE: YOU WILL HAVE TO ADJUST THE SPACING SPEED AND SPEED ON THE FOLDER AND THE SPEED ON THE CROSS CARRIER SO THAT THE PAPER ON THE CROSS CARRIER MOVES OUT OF THE WAY BEFORE THE NEXT PIECE DROPS OUT OF THE FOLDER. GENERALLY, THE MORE FOLDS AND THE HEAVIER THE PAPER, THE SLOWER THE SPEED.

15. ADJUST THE STACKING WHEELS TO 4 1/4" DELIVERY.



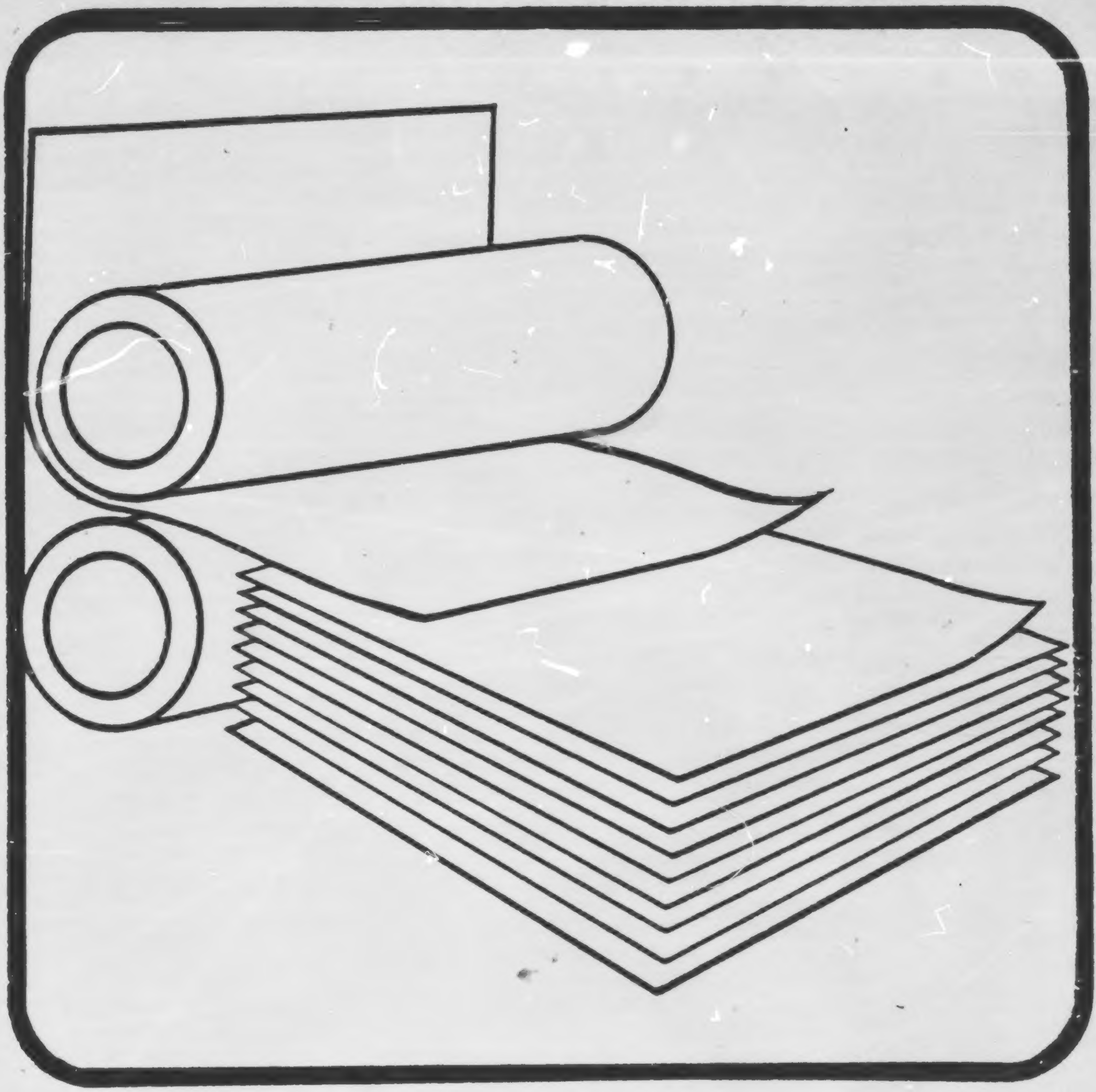
NOTE: YOU MAY HAVE TO MOVE THE PLASTIC BALLS AROUND TO GET THE PAPER TO TRAVEL STRAIGHT. THE MOVABLE (BALL HOLDER) STOP SHOULD BE SET SO THAT THE PAPER CLEARS THE FOLDER RUBBER WHEELS BY 1/4 TO 3/8 INCH. BE SURE THAT YOU HAVE AT LEAST TWO (2) SETS OF RUBBER WHEELS PULLING THE PAPER OUT OF THE FOLDER.

JOB STEPS

CAUTION: DO NOT USE THE STEEL BALLS ON LIGHT PAPER.

CAUTION: YOU MUST WEAR EAR PROTECTION ANY TIME YOU ARE OPERATING THE FOLDER.

16. AFTER YOU NEATLY FOLD AT LEAST 100 SHEETS OF 8 1/2" X 11" DOWN TO 5 1/2" X 4 1/4", HAVE YOUR INSTRUCTOR GIVE YOU SOME 11" X 17" OR LARGER PAPER TO QUARTER-FOLD.



graphics

unit: FINISHING & BINDERY

capital area career center

module: 1401 14 027
1401 14 027 3 date: DECEMBER 1977 level: II

skill title: FOLDER: PASTING, PERFORATING AND SCORING ON A BAUM FOLDER

developed & written by: JIM WOODRUFF

visuals by: STEVE BRAMER

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO ATTACH, SET-UP AND DETACH THE PASTER, PERFORATOR AND SCORING ATTACHMENTS OF THE BAUM FOLDER.

IN ORDER TO DO THIS YOU WILL NEED:

ALLEN WRENCH

1/2" AND 9/16" WRENCH

PASTING, PERFORATOR AND SCORING ATTACHMENTS

SCRAP PAPER

RULER

BAUM FOLDER

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN SET UP AND RUN A JOB WITH 100% ACCURACY AND WITH LITTLE LOSS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

AS A STUDENT AND PROSPECTIVE EMPLOYEE IN THE FIELD OF GRAPHIC ARTS, YOU MAY BE CALLED UPON TO COMPLETE A JOB BY PERFORATING, SCORING OR PASTING ON THE BAUM FOLDER. YOU MAY COMPLETE THESE JOBS SEPARATELY OR AS A PART OF THE FOLDING OPERATION.

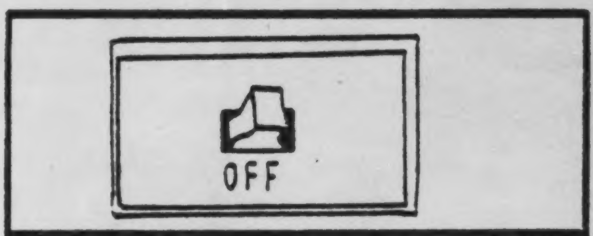
PASTING IS USED TO HOLD SIGNATURES TOGETHER WHEN FOLDING A LARGE SHEET DOWN TO SIGNATURE SIZE. YOU FIND THIS USED A GREAT DEAL IN NEWSLETTERS BECAUSE THEY ONLY HAVE TO BE TRIMMED AFTER FOLDING. SCORING IS USED TO CREASE HEAVY PAPER, SUCH AS 100# STOCK SO THAT IT WILL FOLD EASILY AND ACCURATELY. PERFORATING IS USED WHEN A SECTION NEEDS TO BE TORN OFF EASILY AND TO HELP WHEN FOLDING LARGE SIGNATURES.

JOB STEPS

READ ALL JOB STEPS BEFORE WORKING ON THE MACHINE.

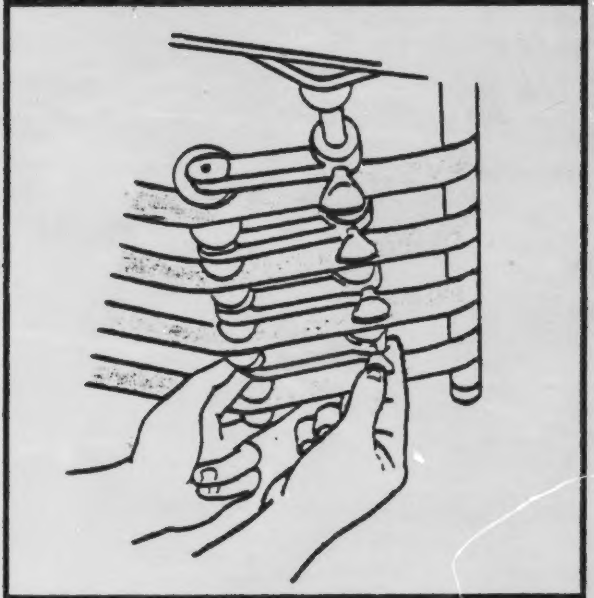
1. OBTAIN THE NECESSARY EQUIPMENT AND A PILE OF ABOUT 500 SHEETS OF 60#, 8½" X 11" SCRAP PAPER.

2. CHECK THE POWER BOX TO BE SURE THE POWER TO THE BAUM FOLDER IS OFF.

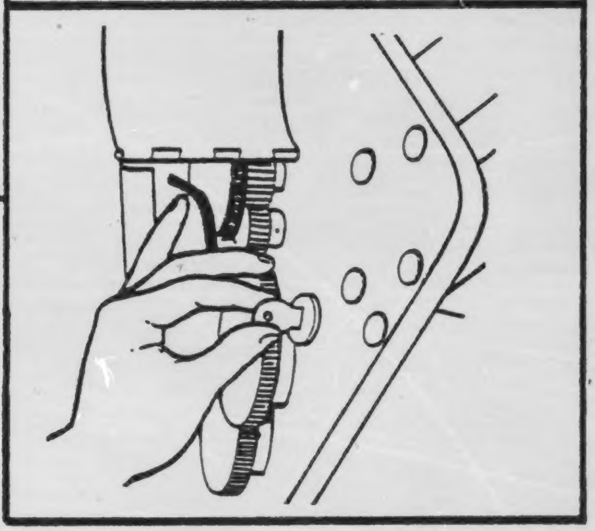


3. ASK THE INSTRUCTOR WHEN THE LAST TIME THE FOLDER WAS OILED, OIL IF NECESSARY.

4. LOCATE THE TWO SHAFTS WITH THE RUBBER DELIVERY WHEELS AT THE DELIVERY END OF THE FOLDER. REMOVE THE DELIVERY BELT AND SUPPORT ARMS.



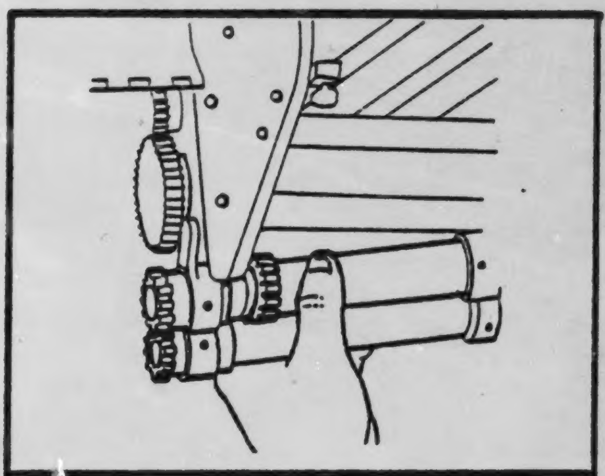
5. REMOVE THE LEFT WING-BOLT THAT IS HOLDING THE 2 SHAFTS, LEFT BUSHING HOUSING AND DRIVE GEARS. USE YOUR RIGHT HAND TO HOLD THE SHAFTS IN PLACE UNTIL THE WING BOLT IS REMOVED.



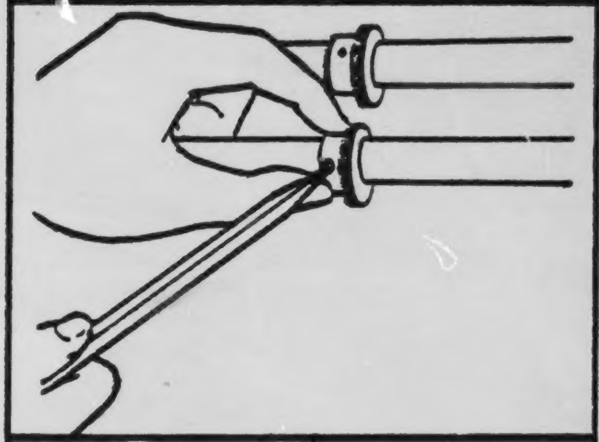
JOB STEPS

6. CAREFULLY SLIDE THE ASSEMBLY TO THE LEFT AND OUT. BE CAREFUL NOT TO DROP OR DAMAGE THE GEAR TEETH, THE ASSEMBLY IS HEAVY (10#).

7. PLACE THE ASSEMBLY ON A TABLE WITH AN OPEN RAG UNDER IT TO PROTECT THE TABLE AND GEAR TEETH.

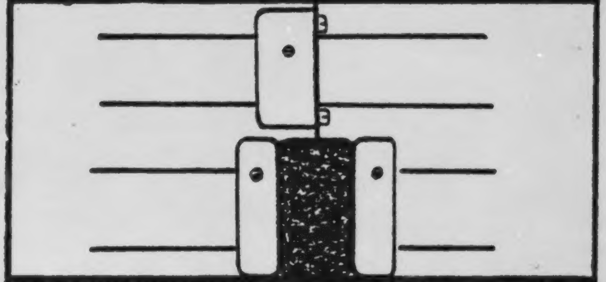


8. LOOSEN THE ALLEN SCREWS ON THE METAL COLLARS OF THE 2 RUBBER ROLLERS ON THE RIGHT SIDE (AWAY FROM GEARS). GENTLY REMOVE THIS PAIR OF RUBBER ROLLERS BY SLIDING THEM OFF THE SHAFTS.



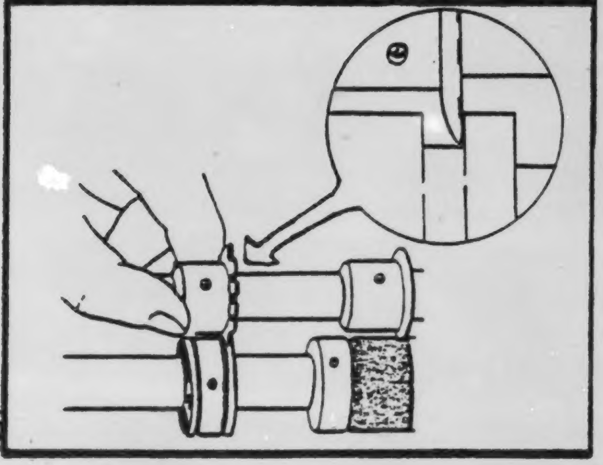
9. PLACE THE SCORING WHEEL ON THE UPPER SHAFT (SEE ILLUSTRATION) AND PLACE THE THICK RUBBER WHEEL BETWEEN TWO METAL COLLARS ON THE BOTTOM SHAFT.

YOU CAN CHANGE THE DEPTH OF THE SCORE BY FORCING THE METAL COLLARS TIGHTER AGAINST THE THICK RUBBER WHEEL. THE SCORING WHEEL SHOULD BE CENTERED OVER THE LOWER RUBBER WHEEL.



10. YOU WILL ALSO DO PERFORATING AT THE SAME TIME FOR THIS PRACTICE MOD. PLACE A PERFORATING WHEEL ON THE UPPER SHAFT ALSO, ABOUT 10 CM FROM THE SCORING WHEEL.

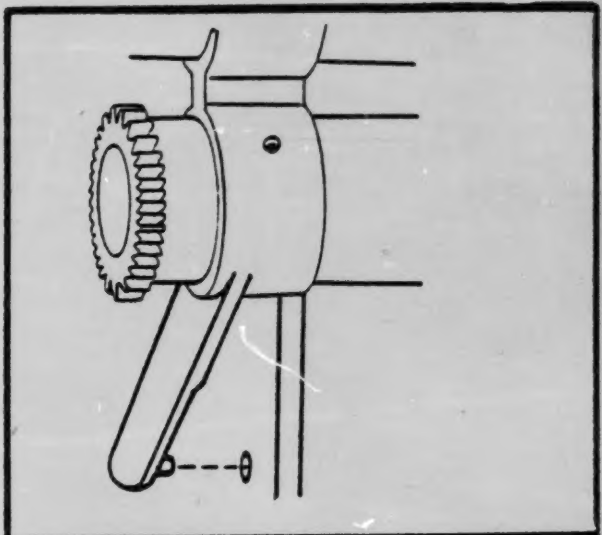
PLACE A SLOTTED STEEL WHEEL ON THE LOWER SHAFT SO THE SHARP FLAT EDGE OF THE PERFORATING WHEEL JUST TOUCHES THE EDGE OF THE SLOT IN THE STEEL WHEEL.



JOB STEPS

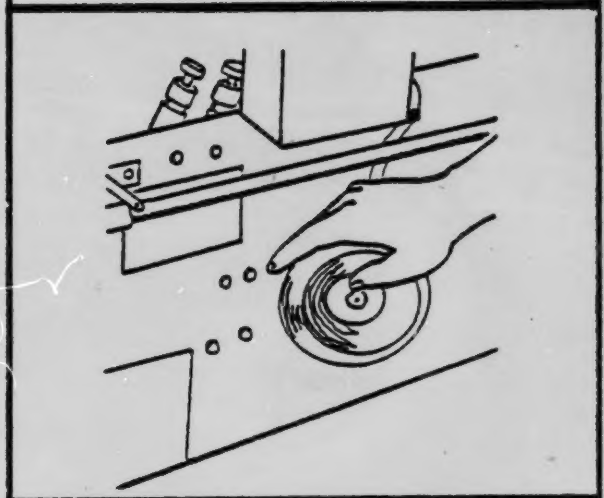
11. NOW REPLACE THE PAIR OF RUBBER ROLLERS YOU REMOVED, PUT ONE ON THE TOP SHAFT AND ONE ON THE LOWER SHAFT.

12. REPLACE THE COMPLETE ASSEMBLY BACK INTO THE FOLDER, CAREFULLY SLIDE THE SHAFTS INTO THE RIGHT-HAND BUSHINGS. BE SURE THE LEFT-HAND PIN (BOTTOM OF BUSHINGS) FITS SNUGLY INTO ITS HOLE. YOU MAY HAVE TO TURN THE GEARS SLIGHTLY SO THEY LINE UP AND FIT IN PROPERLY. TIGHTLY SCREW IN THE WING-BOLT ABOVE THE LEFT BUSHING.

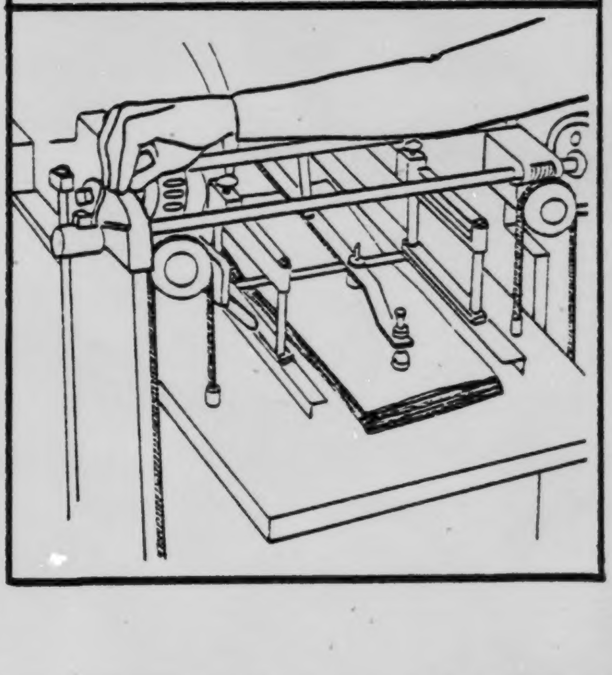


13. USE THE HAND WHEEL TO BE SURE THE GEARS AND WHEELS MOVE FREELY. WATCH THE GEARS AND WHEELS FOR ANY JERKS OR JUMPING WHILE TURNING.

14. TURN ON THE POWER TO THE FOLDER.

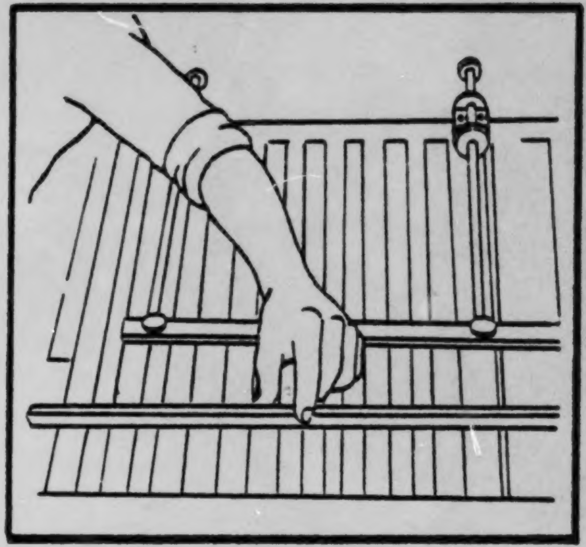


15. LOAD THE FEEDER WITH A REAM OF 8½" X 11" GOOD SCRAP PAPER AND SET THE FOLDER UP TO FEED THIS STOCK.



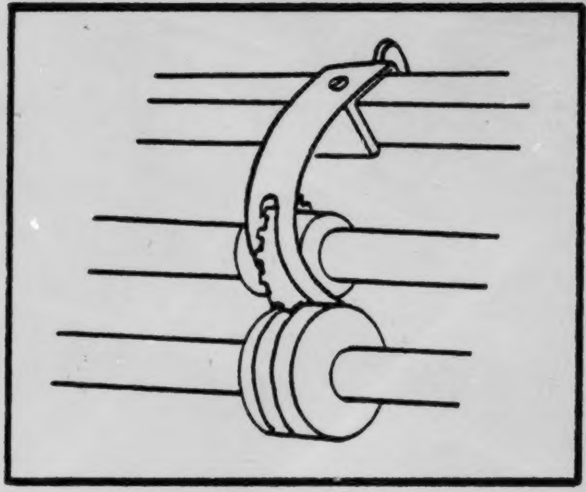
JOB STEPS

16. TURN ON ALL THE DEFLECTORS SO THE PAPER DOES NOT FOLD BUT WILL RUN THROUGH THE FOLDER FLAT. SET THE DELIVERY TO DELIVER THE FLAT STOCK.



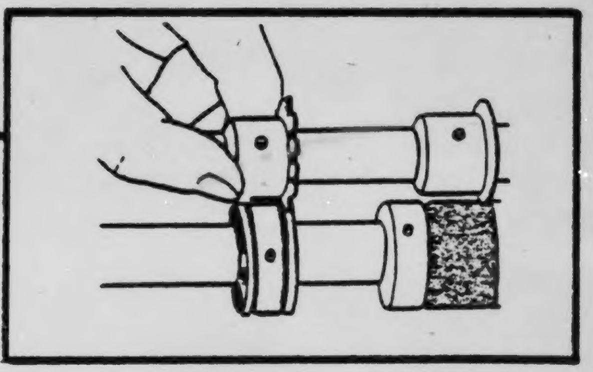
17. CHECK THE POSITION OF THE RUBBER ROLLERS, THEY SHOULD BE ABOUT 4 CM IN FROM BOTH SIDES. THE SCORING WHEEL SHOULD BE CENTERED OVER THE LARGE RUBBER WHEEL AND THE PERFORATING WHEEL AS SHOWN IN STEP 10. IT HELPS TO HAVE ALL THE ALLEN SCREWS FACE OUT AT THE SAME TIME.

18. RUN A FEW SHEETS TO CHECK SCORING AND PERFORATING. YOU MAY HAVE TO ATTACH SOME STRIPPERS TO HELP THE PAPER LEAVE THE PERFORATING WHEEL AND DELIVER PROPERLY. STRIPPERS ARE MADE OUT OF SPRING STEEL OR ALUMINUM AND CAN BE BENT PART WAY AROUND THE PERFORATING WHEEL. ATTACH THEM TO THE SQUARE BAR ABOVE THE SHAFT ASSEMBLY SO THEY HELP STRIP THE PAPER OUT OF THE PERFORATING TEETH.



19. WHEN YOU HAVE EVERYTHING SET UP, RUN 50 SHEETS. DO NOT REMOVE THESE FROM THE DELIVERY CONVEYOR BELT. HAVE YOUR INSTRUCTOR CHECK YOUR 50 SHEETS AS THEY LAY ON THE BELT WHEN YOU STOP THE FOLDER.

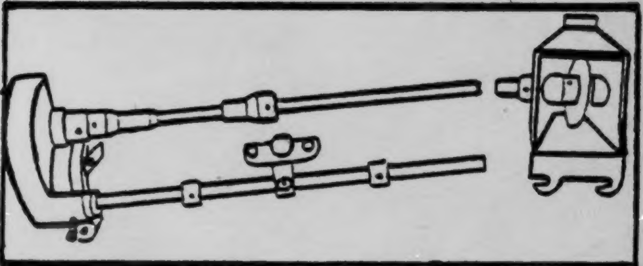
20. AFTER YOU HAVE HAD YOUR WORK CHECKED, REMOVE THE PERFORATING WHEEL, THE SCORING WHEEL AND THEIR LOWER WHEELS FROM THE SHAFTS. ALWAYS LEAVE THE MACHINE SET UP FOR NORMAL DELIVERY OF 8½" X 11" STOCK.



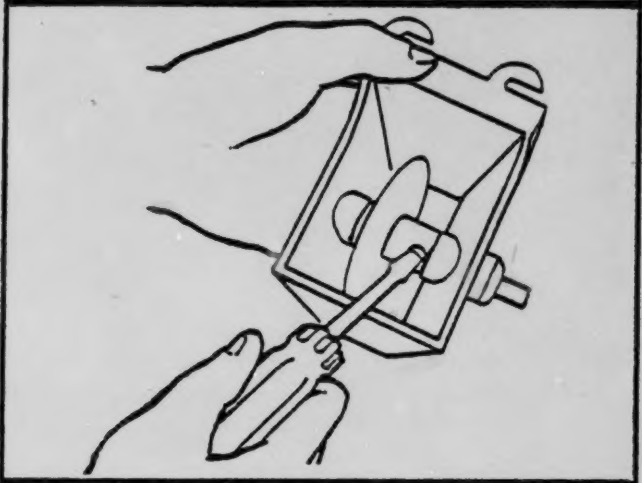
JOB STEPS

21. PLACE A LIFT (500 SHEETS) OF 11" X 17", 70# OFFSET SCRAP PAPER IN THE FEEDER AND SET THE FOLDER UP TO FEED THIS EXACTLY IN THE CENTER OF THE MACHINE, WITH THE 11" EDGE FEEDING.

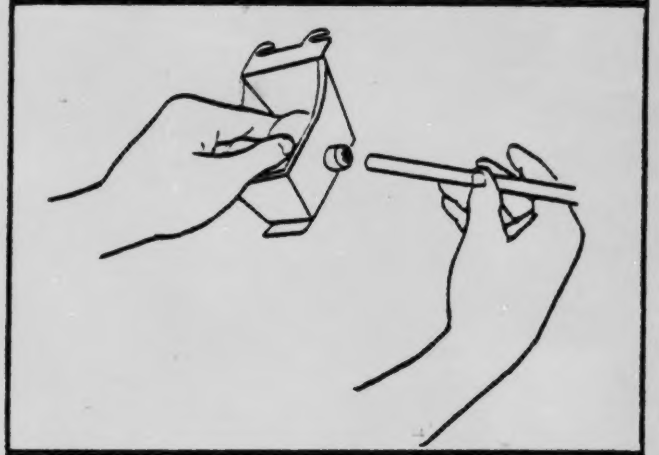
22. GET THE PASTING ATTACHMENT AND POT FROM THE STORAGE BOX UNDER THE BAUM FOLDER.



23. USING A SCREWDRIVER, CAREFULLY REMOVE THE 1/2" STORAGE ROD FROM INSIDE THE PASTER POT.

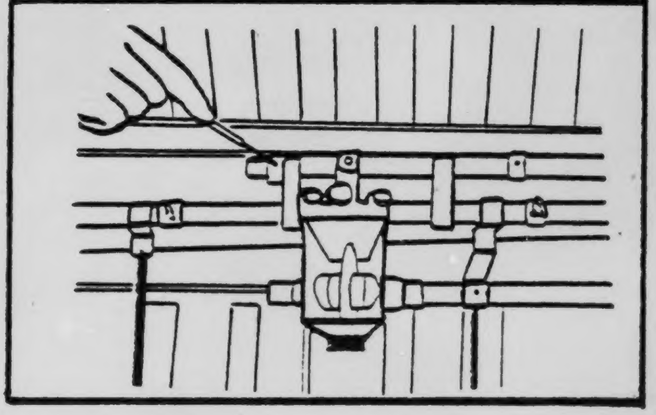


24. SLIDE THE SOLID 1/2" SUPPORT ROD INTO THE PASTER POT BUT DO NOT TIGHTEN UNTIL THE POT AND DRIVE ROD ASSEMBLY ARE IN POSITION.



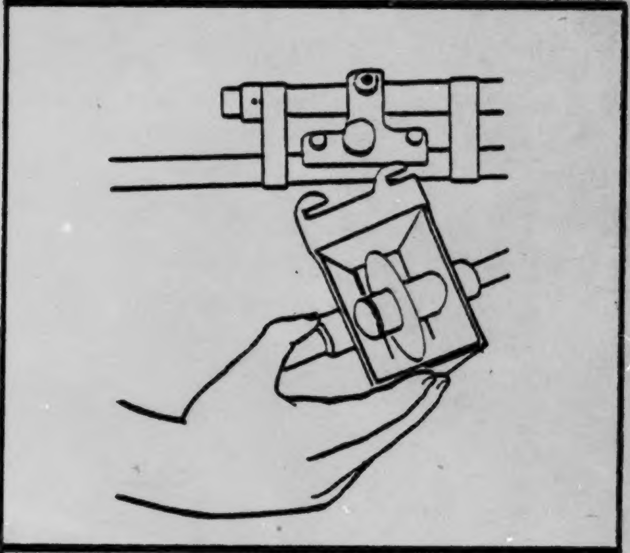
25. MOUNT THE DRIVE ROD ASSEMBLY ON THE FOLDER TO THE SQUARE ROD SUPPORT BRACKET. BE SURE THE GEAR TEETH ARE ENGAGED BEFORE MOUNTING THE PASTE POT. TIGHTEN THE PASTE POT TO THE SUPPORT ROD.

NOTE: NEVER TURN THE MACHINE BACKWARDS WITH PASTER IN THE DOWN POSITION. THERE IS A LEVER ON THE LEFT OF THE BRACKET TO LOCK THE PASTER UP. TURNING THE PASTER BACKWARDS WITH PASTE IN IT WILL CAUSE PASTE TO COME OUT AND MAKE A MESS.

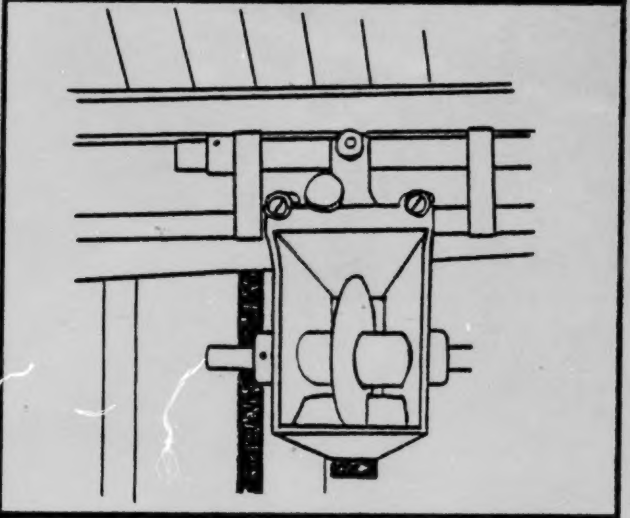


JOB STEPS

26. LOCATE THE SHAFT ASSEMBLY AND REPLACE THE PASTE WHEEL ON THE TOP SHAFT. →

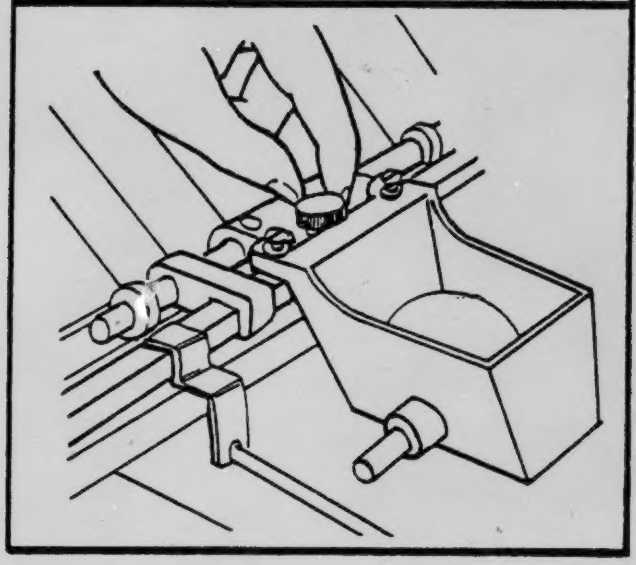


27. PUT IN ENOUGH PASTE TO FILL JUST THE FRONT OF THE PASTE CUP. THE REAR OF THE CUP SHOULD ALWAYS BE CLEAN OF PASTE. →

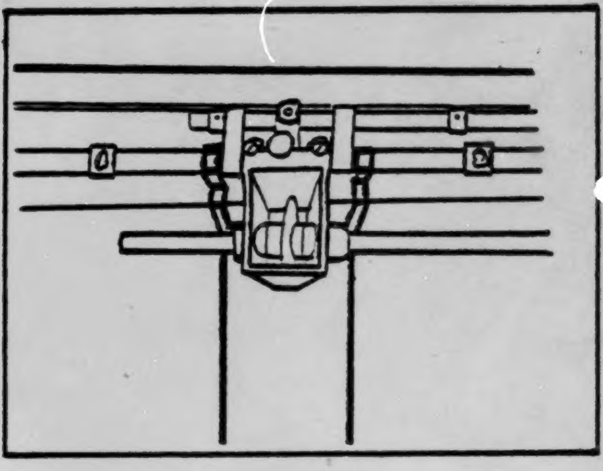


28. CONTROL THE AMOUNT OF PASTE WITH THE PLATE ON THE BOTTOM OF THE PASTER. FOUR SCREWS HOLD THIS PLATE IN POSITION. USE AS LITTLE PASTE AS POSSIBLE.

29. ADJUST THE HEIGHT OF THE PASTER WITH THE KNURLED SCREW. THE PASTER SHOULD JUST TOUCH THE PAPER AS IT PASSES THROUGH. →



JOB STEPS



30. TO STOP CURLED PAPER FROM JAMMING THE PASTER, PUT TWO (2) GUIDES, ONE ON EITHER SIDE OF THE PASTER AND AS CLOSE AS POSSIBLE TO GUIDE THE PAPER.

31. CLEAN THE PASTER CAREFULLY AFTER EACH USE.

****

CAUTION: HANDLE THE PASTER WITH CARE, IT BREAKS EASILY.

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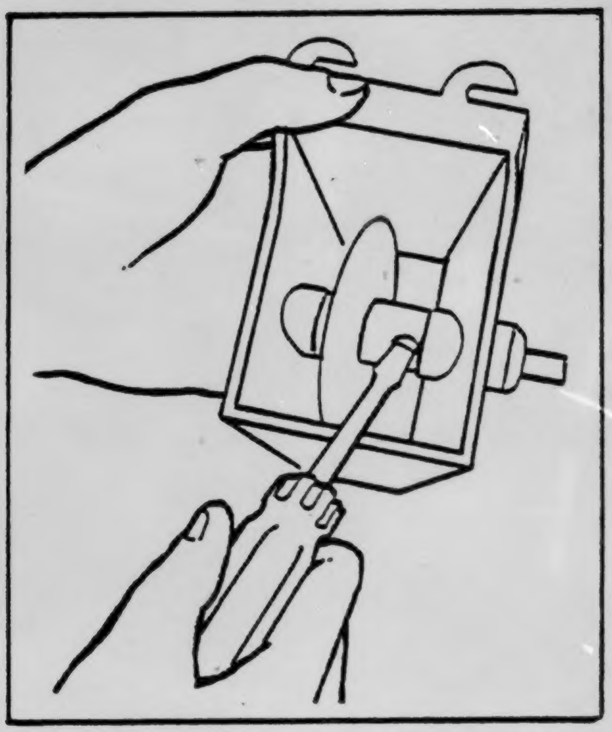


32. PLACE THE 11" X 17" IN THE FOLDER SO THAT IT WILL BE PASTED AT THE 5½" CENTER, 17" LONG.

33. PLUG IN THE FOLDER AND TURN IT ON.

34. RUN A TEST SHEET AND MEASURE FOR ACCURACY.

35. SET THE FIRST FOLD PLATE TO FOLD AT 8½".

36. SET UP THE RIGHT ANGLE FOLDER AND SET IT TO FOLD AT 5 1/2".

37. RUN 50 SHEETS THROUGH AND HAVE THE INSTRUCTOR CHECK FOR ACCURACY.

38. CLEAN UP YOUR AREA AND MAKE SURE EVERYTHING IS PUT AWAY.

39. BE SURE THE PASTER IS PUT BACK ON THE 1/2" STORAGE ROD. LEAVE THE FOLDER SET UP TO FOLD 8½" X 11" STOCK IN 1/2. HAVE YOUR INSTRUCTOR CHECK YOUR MACHINE AND AREA BEFORE YOU LEAVE.

graphics

unit: SPECIAL PROCESSES

capital area career center

module: 1401 15 001
1401 15 001 3 date: DECEMBER 1977 level: II

skill title: MAKING A RUBBER STAMP

developed & written by: GLEN PETTIT

visuals by: SHERRI BAKER

WORD GUIDE

BAKELITE - HARD CLAY LIKE MATERIAL.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO MAKE A RUBBER STAMP.

AND IN ORDER TO DO THIS YOU WILL NEED:

TYPE, CHASE AND FURNITURE
RUBBER STAMP PRESS
BAKELITE MATRIX AND RUBBER
SCISSORS, SAW AND GLUE
RUBBER STAMP MOUNT

WE WILL KNOW YOU CAN DO IT WHEN:

THE FINISHED RUBBER STAMP WILL PRINT WITH EVERY WORD AND LETTER COMPLETE AND READABLE, WITH NO UNWANTED BACKGROUND IMAGE AND WITH THE RUBBER HELD SECURE AND STRAIGHT ON THE MOUNT.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

VULCANIZED - HEATED RUBBER THAT GETS STRONGER AS IT IS MOLDED.

INFORMATION

EVERY BUSINESS USES RUBBER STAMPS. IT IS A VERY FAST NEAT WAY TO OFFICIALLY ADD A MESSAGE, INSTRUCTIONS OR IMPORTANT INFORMATION TO ALMOST ANYTHING.

FOR THIS MODULE YOU WILL BE MAKING ONLY ONE SMALL RUBBER STAMP. IN INDUSTRY THEY MAY MAKE 40 OR 50 RUBBER STAMPS AT ONCE IN A LARGE PRESS. INSTEAD OF HAND-SET TYPE, SOLID LINES OF TYPE ARE MADE ON LINOTYPE (1401 08 013) OR A LUDLOW (1401 08 012) TYPE CASTING MACHINE BECAUSE THE HIGH 300°F. HEAT SOFTENS THE LEAD AND MAY RUIN THE TYPE.

A SMALL ONE-LINE RUBBER STAMP LIKE YOU WILL MAKE COSTS ABOUT $5.00 FROM A SHOP THAT MAKES RUBBER STAMPS.

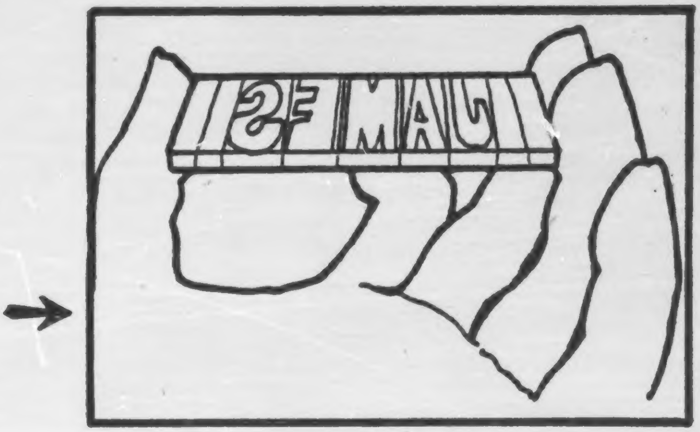
CAUTION: YOU WILL BE WORKING WITH SOME VERY HOT MATERIAL (OVER 300°). WEAR GLOVES AND BE VERY CAREFUL WHERE YOU PLACE THE TYPE, CHASE, TRAY, ETC. SO THEY DON'T BURN THE COUNTER-TOP. ALLOW ENOUGH TIME FOR MATERIALS TO COOL. IF YOU DO BURN YOUR FINGERS, RUN COLD WATER OVER THE BURN AND REPORT IT TO YOUR INSTRUCTOR.

THE FUMES FROM THE BAKELITE AND VULCANIZED RUBBER COULD BE DANGEROUS. DO NOT HOLD THESE CLOSE TO YOUR NOSE WHEN THEY ARE HOT. IN A LARGE ROOM, NORMALLY, YOU WILL HAVE NO PROBLEMS. KEEP THE PRESS AWAY FROM ANY COMBUSTABLE MATERIALS OR CLEANERS.

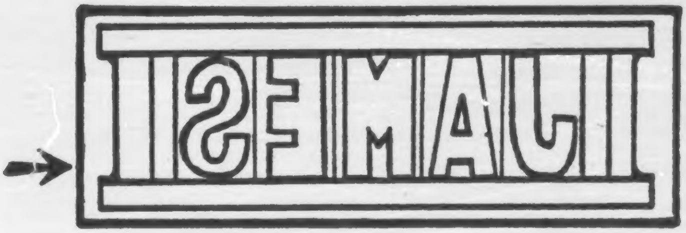
JOB STEPS

1. YOU SHOULD HAVE COMPLETED THE BASIC HAND COMPOSITION MODULES (1401 08 007) BEFORE STARTING THIS MODULE, OTHERWISE WORK WITH SOMEONE WHO CAN SET TYPE BY HAND.

2. FOR YOUR RUBBER STAMP, SET YOUR NAME CENTERED ON A 20 PICA LINE. USE ONLY THE SPECIAL 12 POINT OR 18 POINT TYPE CASES MARKED RUBBER STAMP ONLY.

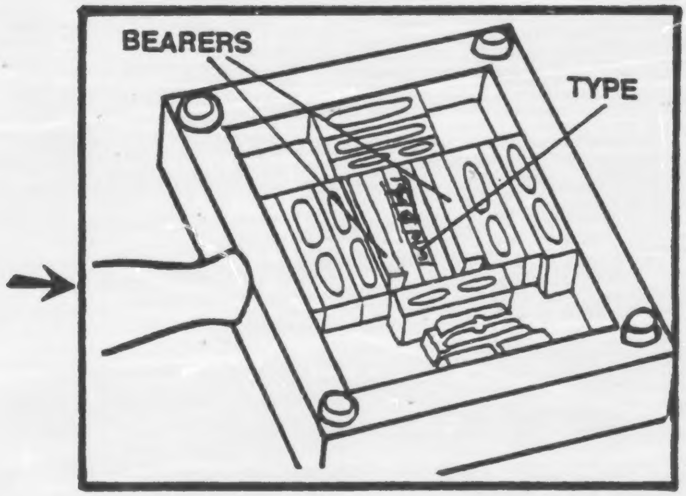


3. BE SURE YOUR NAME IS SET SNUG IN EXACTLY 20 PICAS WIDE, HAVE TWO SLUGS (6 POINTS THICK EACH) ON THE TOP AND BOTTOM OF YOUR LINE OF TYPE.



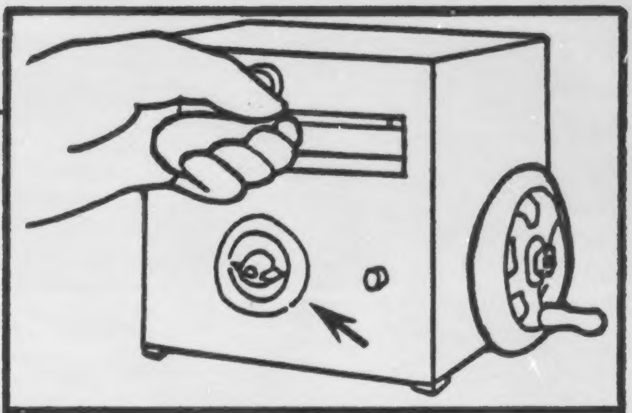
4. GET THE SPECIAL METAL CHASE FOR THE RUBBER STAMP PRESS, SOME METAL FURNITURE (NOT LEAD), THE QUOINS AND QUOIN KEY. TURN ON THE RUBBER STAMP PRESS (20 MINUTE WARM-UP).

5. LOCK UP YOUR TYPE EXACTLY CENTERED IN THE CHASE (IF YOU ARE DOING THIS MOD ALONE, ASK YOUR INSTRUCTOR TO HELP YOU ADD 2 'BEARERS' TO YOUR FORM. THESE WILL GIVE YOU A BETTER MOLD (MATRIX) THAN JUST ONE SMALL LINE OF TYPE). SHOW YOUR CHASE TO YOUR INSTRUCTOR.



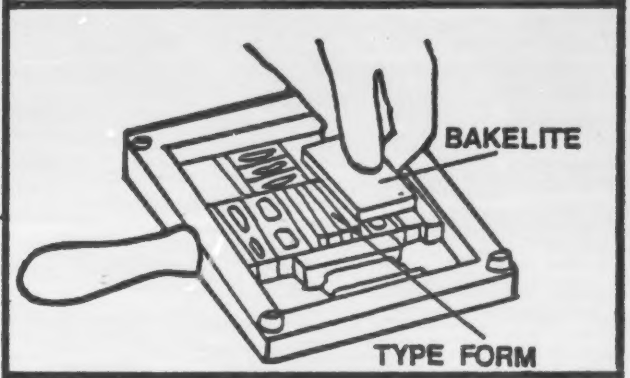
JOB STEPS

6. SLIDE THE CHASE INTO THE RUBBER STAMP PRESS AND PRE-HEAT THE TYPE FOR 3 MINUTES (USE THE TIMER ON THE PRESS).

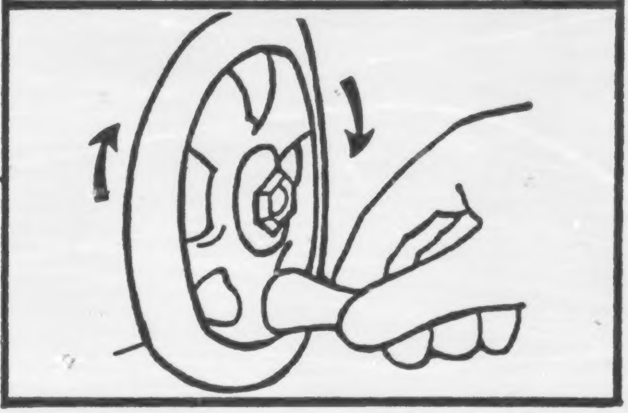


7. REMOVE THE PRE-HEATED TYPE FORM AND CHASE FROM THE PRESS AND SET IT ON TOP OF THE PRESS (NOT ON THE COUNTER OR TABLE).

8. PLACE A SMALL PIECE (1 X 3" OR 3 X 8 CM) OF BAKELITE MOLDING MATERIAL OVER THE TYPE WITH THE HARD RED SIDE DOWN AGAINST THE TYPE. THE THICK BAKELITE MUST BE AT LEAST 5 MM LARGER THAN THE TYPE FORM ON ALL FOUR SIDES. PLACE A PIECE OF PAPER OVER THE BAKELITE SO IT WILL NOT STICK TO THE INSIDE TOP OF THE PRESS.



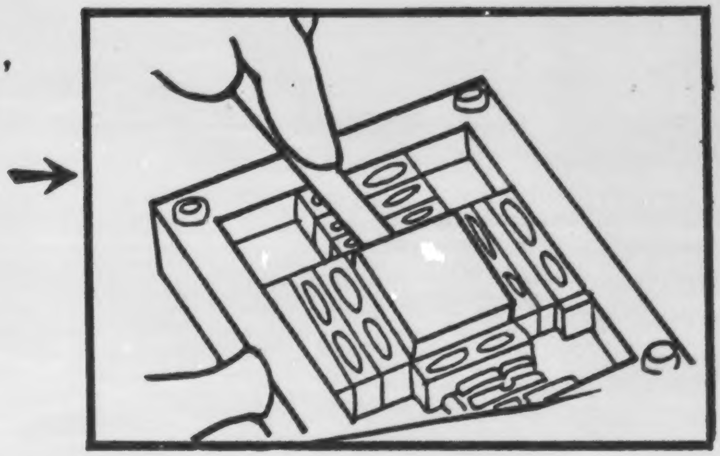
9. PLACE THE CHASE, BAKELITE AND PAPER INTO THE PRESS. TURN THE HANDWHEEL CLOCKWISE TO CLOSE THE PRESS. TURN UNTIL THE FIRST RESISTANCE (PRESSURE) IS FELT.



10. SET THE TIMER FOR 10 MINUTES. AFTER ONE MINUTE THE BAKELITE WILL BECOME SOFT. TIGHTEN THE PRESS AGAIN USING THE HANDWHEEL. REPEAT IF NEEDED. THE PRESS WILL ONLY GO AS TIGHT AS THE 4 LARGE STOPS ON THE CHASE PERMIT.

JOB STEPS

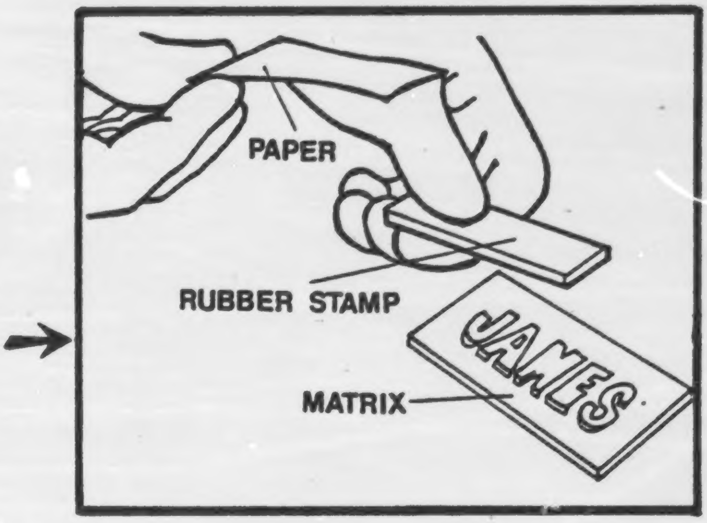
11. AFTER THE MOLD (BAKELITE OR MATRIX) HAS BAKED FOR 10 MINUTES, OPEN THE PRESS AND REMOVE THE CHASE. PLACE IT ON THE METAL STOVE (IT'S VERY HOT AND MAY TAKE 15 MINUTES TO COOL). WITH A SCREWDRIVER, GENTLY PRY THE MATRIX FROM THE TYPE FORM.



12. ALLOW THE MATRIX TO COOL FOR A FEW MINUTES. CHECK THE MATRIX: IT SHOULD HAVE CLEAR, CLEAN DEEP LETTERS, WITH NO CHIPS OR BROKEN PARTS.

13. GET A PIECE OF STAMP RUBBER ABOUT THE SAME SIZE AS YOUR MATRIX. DUST BOTH THE MATRIX AND STAMP RUBBER WITH THE FINE WHITE SOAPSTONE (PREVENTS THE TWO FROM STICKING TOGETHER). BE SURE TO TAP OFF ALL EXCESS SOAPSTONE POWDER INTO THE WASTEBASKET.

14. PLACE THE MATRIX ON THE VULCANIZING TRAY SO IT IS READABLE, PLACE THE STAMP RUBBER OVER THE MATRIX (SO THE PAPER BACKING IS UP, AWAY FROM THE MATRIX), COVER THESE WITH A LARGER PIECE OF PAPER.

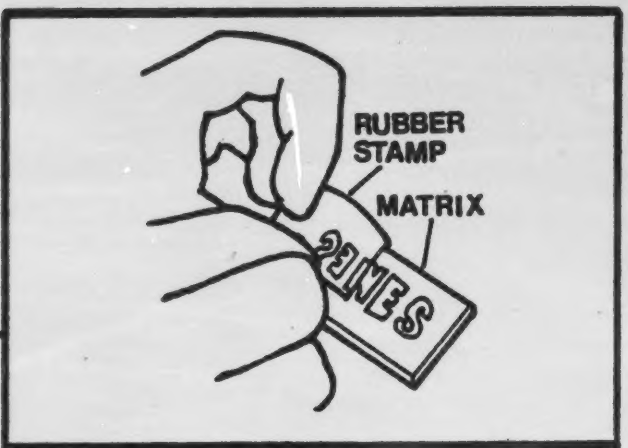


15. PLACE THIS COMPLETED VULCANIZING TRAY INTO THE RUBBER STAMP PRESS. CLOSE THE PRESS AS FAR AS IT WILL GO. ALLOW THE STAMP RUBBER TO VULCANIZE FOR 6 MINUTES (IT WILL SOFTEN AND BE FORCED INTO THE MATRIX SHAPE. . .THE SAME MATRIX CAN BE USED TO MAKE MANY RUBBER STAMPS).

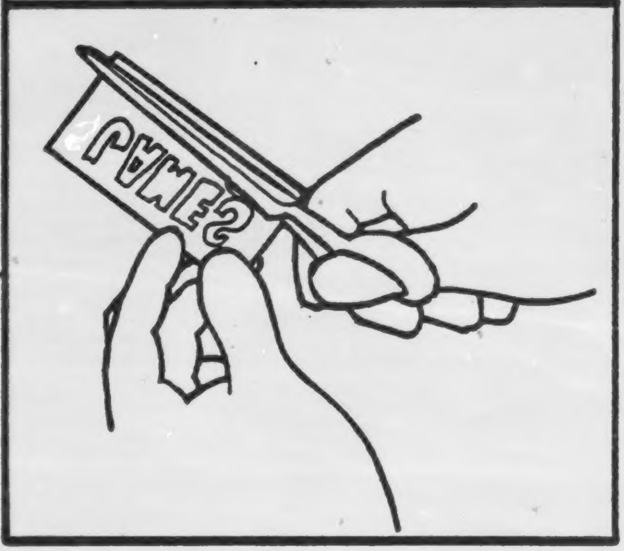
JOB STEPS

16. AFTER 6 MINUTES, OPEN THE PRESS, REMOVE THE TRAY AND ALLOW THE MATRIX AND RUBBER TO COOL BEFORE STRIPPING APART. AS THEY COOL, THEY WILL SHRINK SOME AND STRIP APART MUCH EASIER THAN WHEN HOT (10-15 MINUTES). SHUT OFF THE RUBBER STAMP PRESS. YOU CAN UNLOCK YOUR CHASE AND PUT AWAY THE TYPE, SLUGS AND FURNITURE.

17. CAREFULLY AND SLOWLY STRIP THE STAMP RUBBER FROM THE MATRIX. INSPECT ALL THE LETTERS TO BE SURE THEY ARE CLEAR AND SHARP.



18. TRIM OFF THE EXCESS RUBBER BY TAPERING (CUT ON AN ANGLE AWAY FROM THE IMAGE OR TYPE) THE SCISSORS AS YOU CUT. THE TAPER IS VERY IMPORTANT; NO TAPER WILL GIVE A WEAK BLURRED PRINT BECAUSE THE RUBBER CAN MOVE WHEN PRINTED. TOO MUCH TAPER MAY PRINT BACKGROUND MARKS. A 45° TAPER IS BEST. TRIM AS CLOSE TO THE IMAGE AS POSSIBLE.

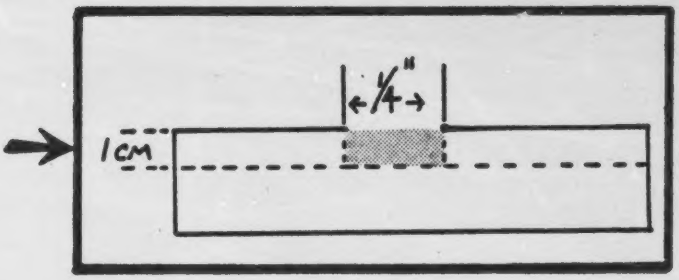


19. CUT A PIECE OF RUBBER STAMP MOUNT THAT IS ABOUT 5-10 MM LONGER THAN YOUR RUBBER, AND AS WIDE AS YOUR RUBBER (SOME MAY BE ALREADY CUT). DO THIS OVER A WASTEBASKET.

JOB STEPS

20. USING RUBBER CEMENT, COAT THE RUBBER PAD. PEAL OFF THE WHITE PAPER BACKING FROM YOUR STAMP RUBBER AND COAT THIS WITH RUBBER CEMENT. CAREFULLY PLACE THE PAD AND RUBBER TOGETHER TIGHTLY, SO THE PLASTIC LABEL WILL BE TOWARD YOU AS YOUR NAME IS PRINTED.

21. NOW GET THE DRILL AND A 1/4" DRILL BIT. PLACE A PIECE OF TAPE 1 CM FROM THE END OF THE DRILL BIT SO YOU'LL KNOW HOW DEEP TO DRILL. DRILL A 1/4" HOLE 1 CM DEEP IN THE EXACT CENTER OF THE WOOD STAMP MOUNT.

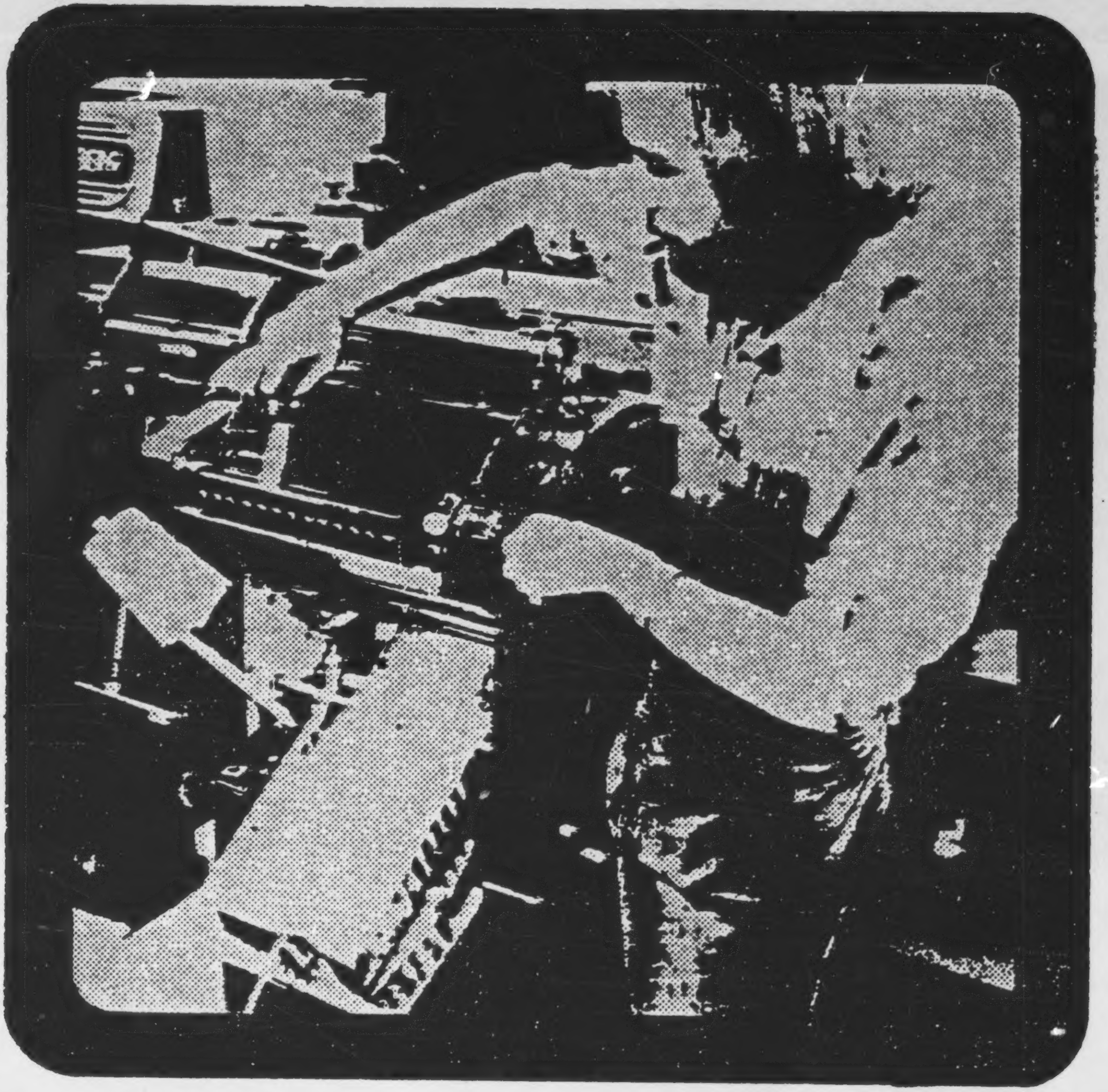


22. PUT SOME ELMERS GLUE ON THE HANDLE STUB AND IN THE HOLE YOU JUST DRILLED. PLACE THE HANDLE INTO THE MOUNT.

23. MAKE A TEST PRINT. TRIM DOWN AND PUT THIS UNDER THE PLASTIC LABEL ON THE MOUNT.

24. CLEAN UP YOUR AREAS: RETURN THE GLUE, DRILL, SAW, ETC. DISCARD ALL SAWDUST AND RUBBER TRIMMINGS. PUT THE COOL RUBBER STAMP PRESS, THE CHASE AND TRAY AWAY. STRAIGHTEN UP THE RUBBER STAMP DRAWER.

25. SHOW YOUR INSTRUCTOR YOUR RUBBER STAMP AND SOME PRINTS MADE FROM IT.



graphics

unit: SPECIAL PROCESSES

capital area career center

1401 15 003

module: 1401 15 003 3 **date:** 5/74 **level:**

skill title: EMBOSSING WITH VIRKOTYPE POWDER

developed & written by: GLEN PETTIT

visuals by: MIKE SMITH

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO DUST A FRESHLY PRINTED SHEET WITH VIRKOTYPE POWDER AND PASS IT THROUGH A HEAT CHAMBER TO PRODUCE THERMOGRAPHIC RAISED PRINTING.

IN ORDER TO DO THIS YOU WILL NEED:

VIRKOTYPE POWDER
A HEAT SOURCE
PRINTED STOCK
A BOX
EMBOSSING MACHINE

WE WILL KNOW YOU CAN DO IT WHEN:

1. THE FINAL THERMOGRAPHIC PRINTING IS RAISED, CLEAN, AND SOLID, AND THE AREA AROUND IT IS FREE OF EXCESS DUST OR POWDER.
2. THE STOCK IS FLAT, WITHOUT ANY BROWN OR BURN STAINS.
3. THE FINAL PRINTING IS UNIFORM, WITHOUT RUNS, YELLOWING, AND FLATNESS, AND IT FEELS SMOOTH, NOT DRY OR POWDERY.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

EMBOSSING - RAISING SOMETHING FROM A SURFACE.

COARSE - HARD, ROUGH.

INFORMATION

VIRKOTYPE IS "FAKE EMBOSSING" AND IS DONE BY DUSTING A FRESHLY PRINTED SHEET WITH A POWDER, REMOVING THE EXCESS AND APPLYING HEAT TO THE PAPER TO "MELT" THE POWDER.

MOST WEDDING INVITATIONS AND MOST FORMAL PRINTING IS EMBOSSED. THE QUALITY WAY TO EMBOSS IS WITH A STEEL ENGRAVING (LETTERPRESS PRINTING ONLY; REQUIRES A MALE AND A FEMALE DIE OF THE TYPE WHICH MUST BE PERFECT REGISTER). ENGRAVING A TYPICAL WEDDING INVITATION, FOR EXAMPLE, WOULD COST ABOUT $80.00 FOR 100 INVITATIONS AND MUST BE DONE AT A LARGE TRADE SHOP, LIKE ONE IN CHICAGO. THE SAME INVITATIONS COULD BE DONE IN LANSING FOR LESS THAN $20.00-IF THERMOGRAPHIC (VIRKOTYPE). MOST PEOPLE COULD NOT TELL OR FEEL THE DIFFERENCE.

THE ENGRAVED STEEL DIE WILL ACTUALLY EMBOSS UP THE PAPER WHEN YOU FEEL THE RAISED IMAGE, YOU ARE ACTUALLY FEELING THE RAISED PAPER. THERE WILL BE A SLIGHT INDENTION VISIBLE FROM THE BACK OF THE PAPER WHERE THE MALE DIE FORCED THE PAPER INTO THE FEMALE DIE. ENGRAVING IS A SIGN OF EXPENSIVE, QUALITY PRINTING.

VIRKOTYPE OR THERMOGRAPHY LOOKS AND FEELS IDENTICAL TO ENGRAVING FROM THE FRONT, BUT COSTS ONLY A FRACTION OF WHAT ACTUAL ENGRAVING WOULD. A THERMOGRAPHIC POWDER (VIRKOTYPE IS MOST COMMON BRAND; "ROSIN" WILL ALSO WORK) IS DUSTED ON THE STILL WET INK. ALL EXCESS POWDER IS REMOVED AND HEAT IS THEN APPLIED TO THE DUSTED SHEET (LONG ENOUGH TO MELT THE POWDER, WHICH MIXES WITH THE INK AND HARDENS QUICKLY WHEN COOLED).

THE CLEAR, VIRKOTYPE POWDER (YELLOWISH) TAKES ON WHATEVER COLOR INK IT STICKS TO AND ALSO DRIES THE INK IMMEDIATELY, WHEN HEATED. A GLOSS POWDER IS VERY BRIGHT AND REFLECTIVE WHILE THE DULL POWDER IS FLATTER AND DULL. VIRKOTYPE POWDER ALSO COMES IN GOLD AND SILVER (BRASS CHIPS OR ALUMINUM CHIPS ARE ADDED) BUT THESE ARE VERY COARSE AND ONLY LOOK BEST ON VERY LARGE SOLIDS OR BOLD TYPE.

VIRKOTYPE POWDER COSTS ABOUT $12/LB., WHICH MAY DO 5,000 AVERAGE WEDDING INVITATIONS (A POUND IS ABOUT THE SAME VOLUME AS A QUART).

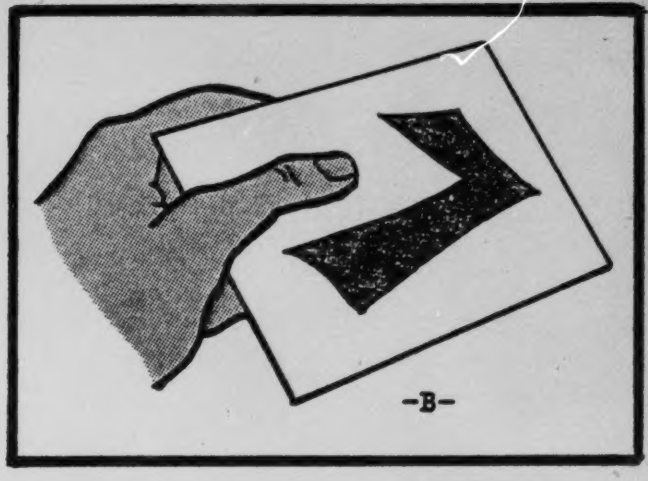
ALMOST ANYTHING THAT FURNISHES HEAT MAY BE USED TO HEAT THE PAPER: A MATCH, LIGHT BULB, OVEN, SUN LAMP, ETC. (YOU CAN USE A SPECIAL HEAT TUNNEL OR THE SHRINK WRAP TUNNEL, THOUGH IT IS SLOW).

INFORMATION

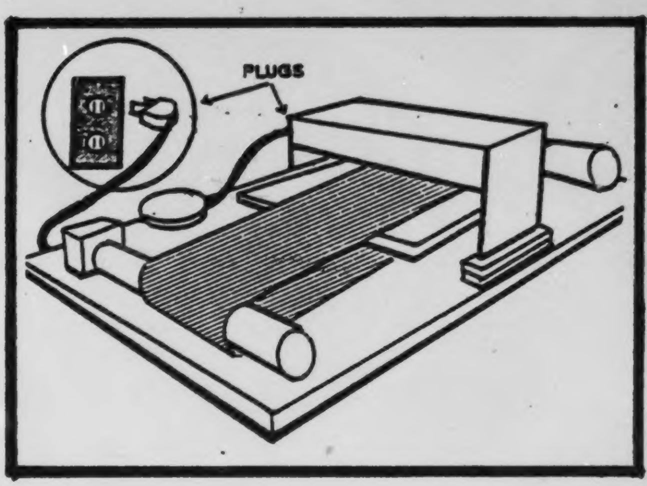
NOTE: THICK PAPER, LIKE POSTERBOARD, REQUIRE A LOT OF HEAT. IF YOU HAVE ONLY A FEW TO DO, USE A MATCH OR BULB. BE CAREFUL NOT TO BURN YOUR PAPER. ALLOW SUFFICIENT TIME FOR YOUR UNIT TO COOL BEFORE PUTTING IT AWAY. VIRKOTYPE POWDER IS VERY LIGHT SO BE CAREFUL TO AVOID "BLOWING" EXCESS DUST AROUND. GENTLY POUR EXCESS DUST FROM THE BOX OR PAPER BACK INTO THE CONTAINER (REMEMBER: $1.00 PER OUNCE).

JOB STEPS

1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

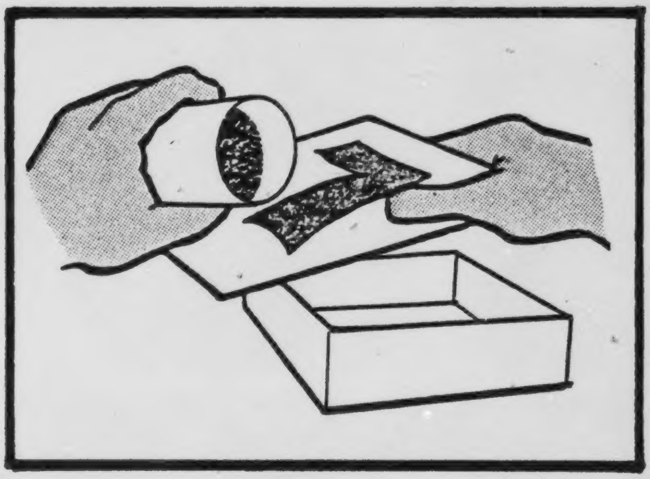


2. GET SOME FRESHLY PRINTED STOCK READY FOR EMBOSSING (SHOULD BE THERMOGRAPHED WITHIN 10-15 MINUTES).



3. PRE-HEAT THE EMBOSSING MACHINE AND BE SURE THE ROLLERS ARE TURNING.

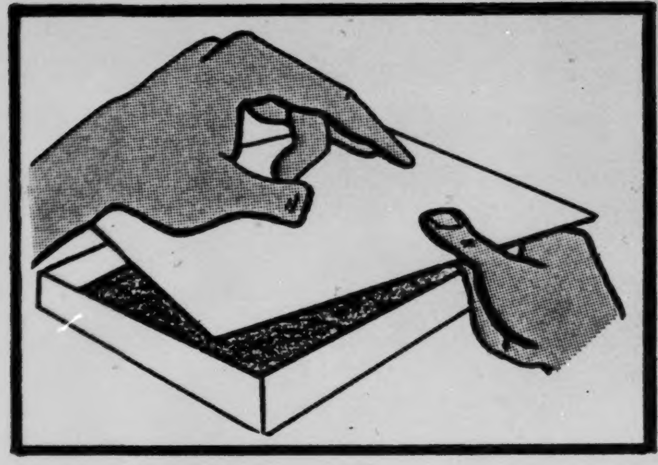
4. GET THE VIRKOTYPE POWDER (CLEAR IS LIGHT YELLOW IN COLOR). GET A SMALL BOX OR LARGE SHEET OF PAPER FOR COLLECTING EXCESS POWDER.



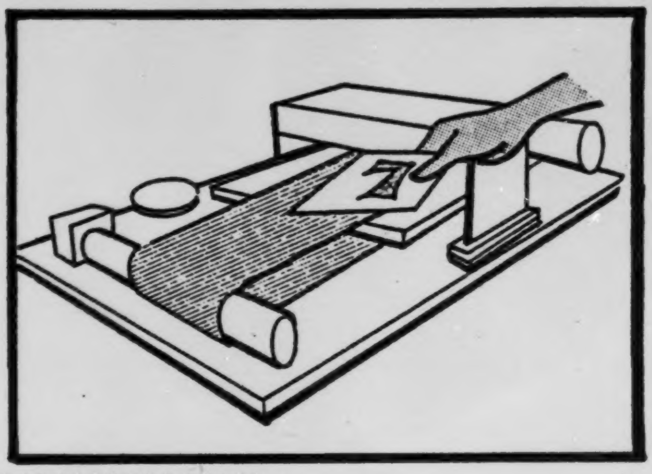
5. POUR ENOUGH VIRKOTYPE POWDER ON THE WET INK TO COVER ALL THE PRINTING. THEN, GENTLY SHAKE THE STOCK TO ADHERE THE POWDER.

JOB STEPS

6. TURN THE STOCK OVER AND "SNAP" THE BACK OF IT WITH YOUR FINGER TO REMOVE ALL EXCESS POWDER.

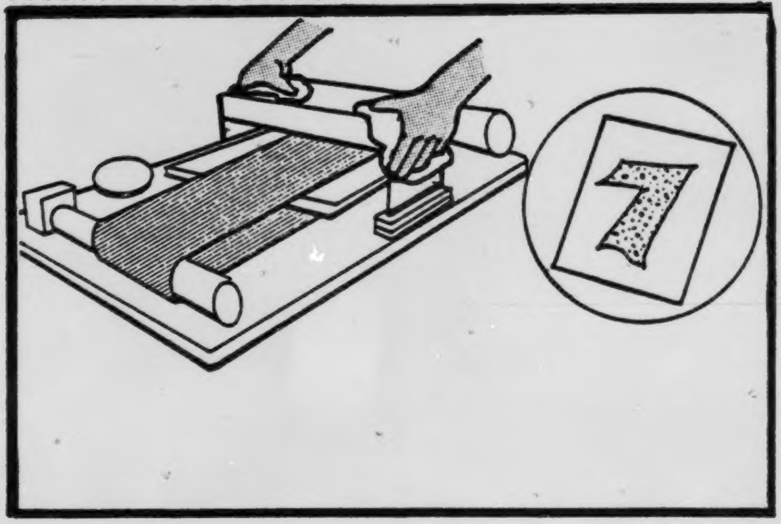


7. PLACE THE DUSTED STOCK ON THE CONVEYOR BELT - FACE UP - AND LET IT RUN THROUGH. YOU SHOULD HAVE A THREE-DIMENSIONAL, RAISED, PRINTED AREA.



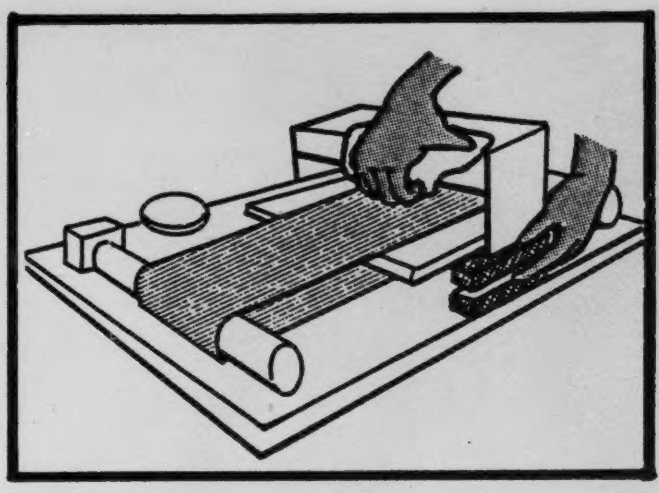
CAUTION: HEATING UNIT IS HOT. HANDLE WITH CARE.

8. IF THE IMAGE AREA LOOKS PITTED AND ROUGH, IT NEEDS MORE HEAT. LOWER THE HEATING UNIT CLOSER TO THE STOCK, FOR REMAINING STOCK, OR RUN YOUR ONE PIECE OF STOCK THROUGH AGAIN.

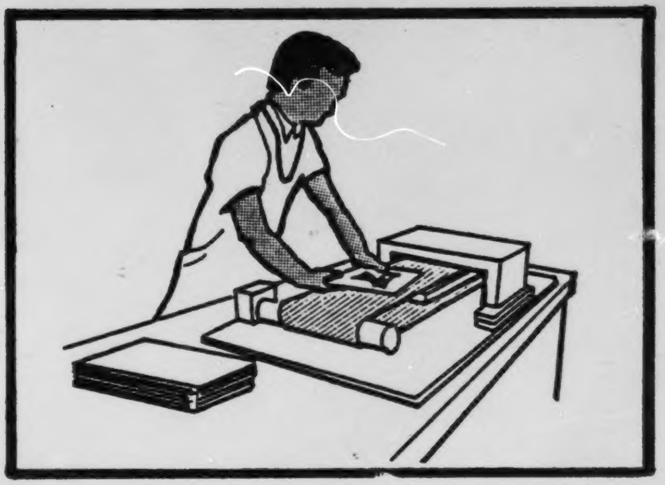


JOB STEPS

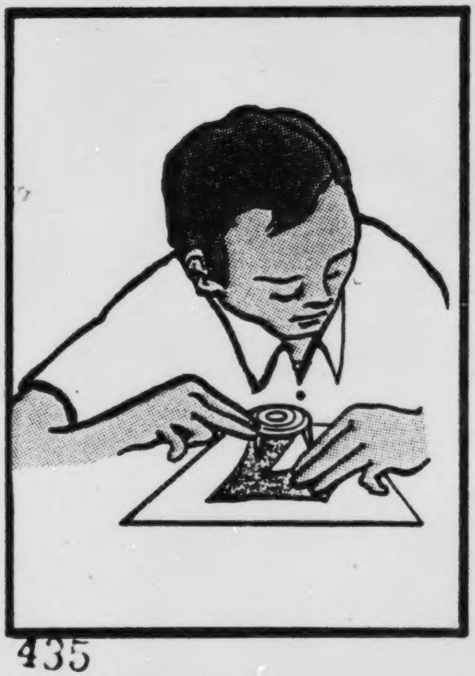
9. IF THE IMAGE IS FLAT, RUN TOGETHER AND YELLOWISH, IT HAS TOO MUCH HEAT. RAISE THE HEATING UNIT AWAY FROM THE BELTS USING PIECES OF WOOD FURNITURE. IF THERE ARE LITTLE SPECKS OF YELLOW ON THE STOCK (EXCESS VIRKOTYPE POWDER), "SNAP" THE STOCK HARDER TO REMOVE IT.

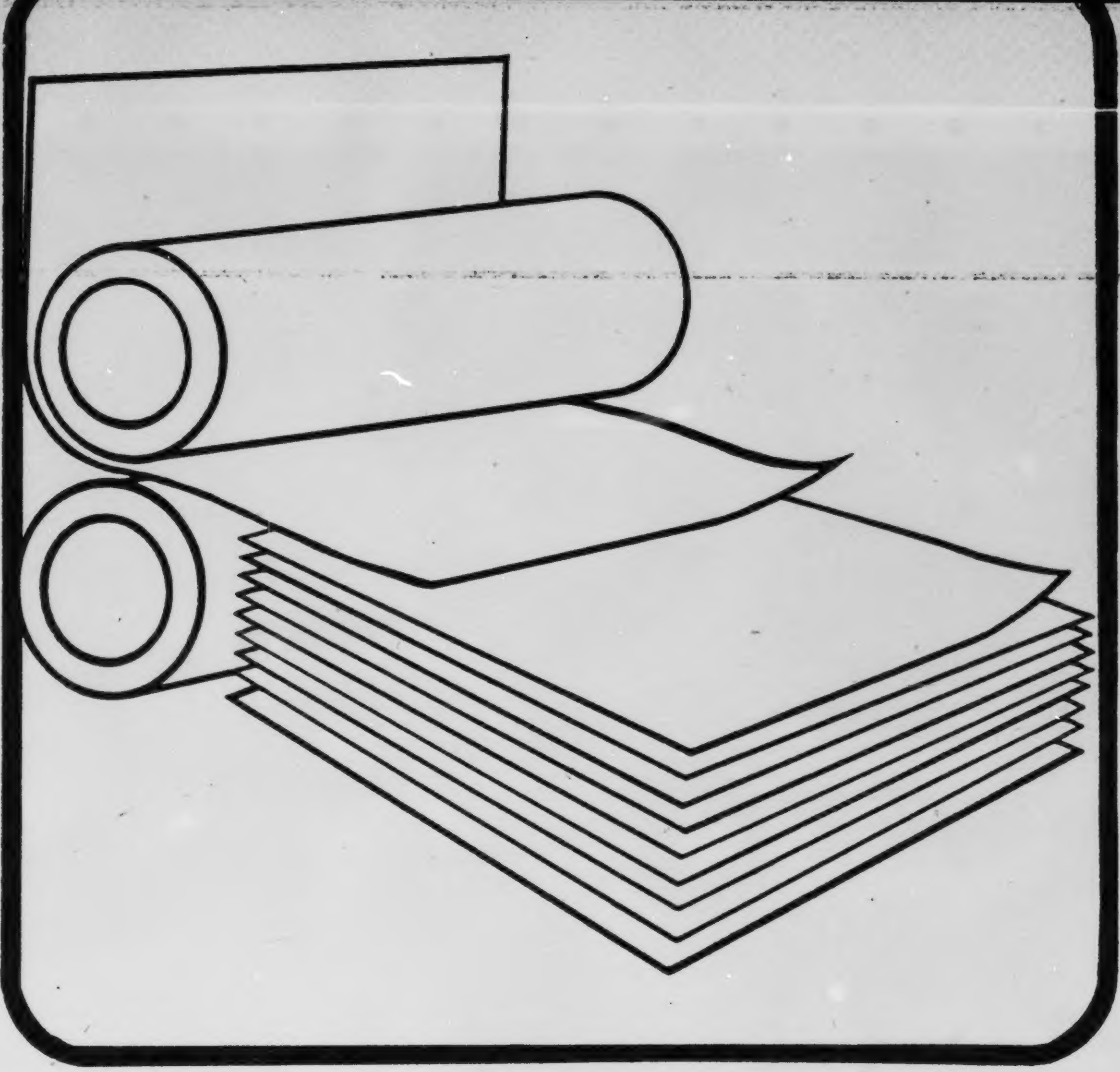


10. VIRKOTYPE YOUR JOB.



11. CHECK YOUR WORK ARE CAREFULLY, ESPECIALLY FOR EXCESS VIRKOTYPE POWDER.





graphics

unit: SPECIAL PROCESS

capital area career center

1401 15 004
module: 1401 15 004 3 **date:** NOVEMBER 1977 **level:**

skill title: SIGNPAINTING: SMALL POSTERS AND PLACARDS

developed & written by: GLEN PETTIT

visuals by: DAVE BROWN

WORD GUIDE

ASSORTED - DIFFERENT KINDS OF.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO USE THE GIVEN LAYOUT TO ROUGH-IN AND THEN SIGNPAINT A CARD OR POSTER, USING POSTERPAINTS AND BRUSHES.

IN ORDER TO DO THIS YOU WILL NEED:

A SMALL CARD OR POSTER LAYOUT

4-PLY POSTERBOARD (7" X 11", 8 1/2" X 11", AND 11" X 14")

POSTER PAINTS

NEWSPAPER

PAPER TOWELS

ASSORTED BRUSHES

BRUSH WASH STAND

WE WILL KNOW YOU CAN DO IT WHEN:

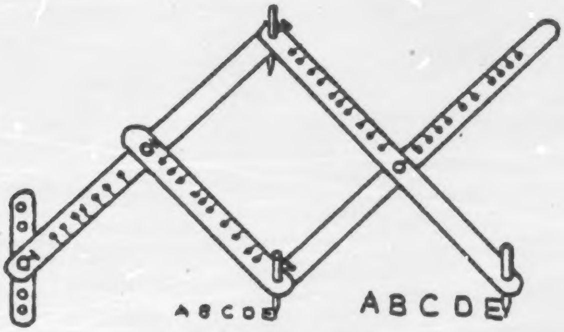
1. THE FINAL PRODUCT IS NEAT, CLEAN, AND REASONABLY SHARP.
2. IT CAN EASILY BE READ FROM THE SPECIFIED DISTANCE, MARGINS AND LETTER SPACING ARE APPROPRIATE AND TYPE FACES ARE COMPLIMENTARY.
3. THE COLOR CHOICES HARMONIZE AND ARE VERY READABLE FROM A DISTANCE, TYPE WEIGHTS ARE ALSO EASILY READABLE, PAINTING IS NEAT, CLEAN, AND SMOOTH.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

THE MOST DIFFICULT PART OF SIGNPAINTING IS GETTING THE CORRECT LAYOUT WITH READABLE, ATTRACTIVE, CORRECT SIZE TYPE. IT IS NECESSARY TO CHANGE SIZES FOR ATTRACTIVENESS AND EASY READABILITY.

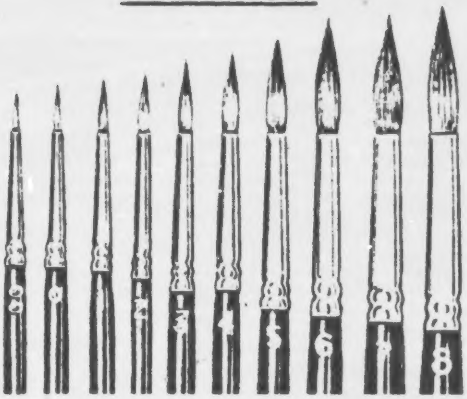
SINCE YOU ALREADY HAVE YOUR LAYOUT (EITHER FULL, 1/2, OR 1/4 SIZE) EXACTLY AS YOU WANT IT, IT IS SIMPLY A MATTER OF CORRECTLY TRANSFERRING THE LAYOUT TO THE POSTERBOARD MATERIAL. THERE ARE MECHANICAL DEVICES FOR TRANSFERRING THE IMAGE FROM THE LAYOUT TO THE POSTERBOARD. THE PANOGRAPH IS THE MOST POPULAR DEVICE (SEE ILLUSTRATION). IT CAN BE SET FOR REPRODUCTION UP TO 10 TIMES THE ORIGINAL SIZE. IT IS NECESSARY TO USE A RULER TO TRANSFER MEASUREMENTS AND, IF THE LAYOUT IS ACCURATE, IT IS EASY TO TRANSFER ALL THE INFORMATION. IN TRANSFERRING, ONLY MAKE "STICK" LETTERS, LIGHT STROKES WHERE THE LETTERS WILL BE. THE BRUSHES (AND PAINT) WILL PROVIDE THICKNESS. THE MOST IMPORTANT PART IN TRANSFERRING IS GETTING THE CORRECT POSITION AND CORRECT TYPE-SIZES AND MARGINS. IT IS EASY TO INCREASE THE WEIGHT (BOLDNESS) OF A LETTER.



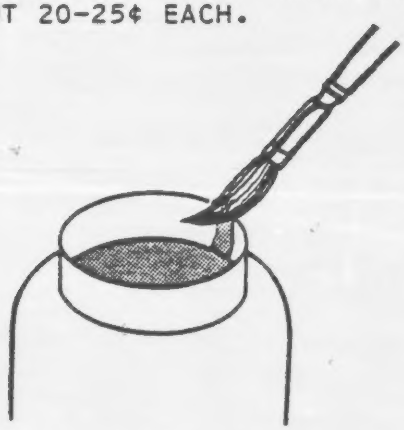
ONCE YOU START PAINTING, IT IS DIFFICULT TO MAKE CORRECTIONS. YOU WILL USUALLY HAVE TO START OVER FROM SCRATCH. IF YOU CORRECTLY TRANSFER THE LAYOUT AND CHECK IT, YOU HAVE NO PROBLEMS. GENERALLY, DRAW THE BASE LINES FIRST. DETERMINE WHERE THE TOP AND BOTTOM OF EACH LINE WILL BE AND DRAW THESE LINES IN FIRST, IN LIGHT BLUE PENCIL. LETTER-IN THE LETTERS VERY LIGHTLY FIRST (DO NOT RUSH); BE NEAT AND EXACT AND CHECK OVER THE ENTIRE POSTER WHEN IT IS COMPLETELY LETTERED-IN. DO NOT START PAINTING UNTIL ALL THE LETTERS ARE CORRECT.

THERE ARE MANY SIZES OF BRUSHES AVAILABLE: #00 IS THE THIN AND #6 IS HEAVY OR THICKER. THE TIPS COME TO A POINT; THESE HAIR BRUSHES ARE MADE TO HOLD ENOUGH PAINT SO THEY CAN BE USED FOR 10 TO 30 SECONDS OR ABOUT 10-20" OF PAINTING BEFORE BEING REPLENISHED. DO NOT ALLOW THE PAINT TO COMPLETELY COVER ALL THE HAIR (ONLY ABOUT 1/2 TO 2/3 OF THE HAIR SHOULD CARRY PAINT) AND PAINT SHOULD NEVER GET NEAR THE METAL COLLAR. IT MAY BE NECESSARY TO CLEAN THE BRUSHES EVERY FIVE OR TEN MINUTES (SEE THE ILLUSTRATION AT THE TOP OF THE NEXT PAGE).

INFORMATION



WHEN YOU CLEAN A SMALL BRUSH IN A GLASS, WIPE THE TIP OF THE BRUSH AGAINST THE SIDE OF THE GLASS (OR CUP), NOT ON THE BOTTOM (PAINT SETTLES THERE), AND AVOID PUSHING TOO HARD AS YOU MAY BEND AND BREAK THE HAIRS (THIS IS WHAT CAUSES PIECES OF HAIR TO FALL OUT WHILE YOU ARE PAINTING). OUR WASHER HAS TWO CUPS; ONE IS FOR THE WASH AND THE OTHER A RINSE. IF A SINK IS NEARBY, USE THE SINK WITH ITS RUNNING WATER. AGAIN, DO NOT RUB THE HAIRS TOO HARD. ROLLING THE HAIRS CAREFULLY BETWEEN YOUR FINGERS WILL HELP. NEVER STORE A BRUSH SO THE TIP WILL BEND. THE TIP MAY BE LEFT IN WATER BUT KEEP THE WOOD OUT OF THE WATER. IT IS BEST TO LET THE BRUSH DRY WITH THE TIP DOWN. BRUSHES MAY COST SEVERAL DOLLARS EACH. FOR PAINTING AT THE CENTER, WE ARE USING AN INEXPENSIVE BRUSH (SIZES 00 TO 6) AT ABOUT 20-25¢ EACH.



THE PAINT WE USE AT THE CAREER CENTER IS A LIQUID TEMPRA. IT IS A HEAVY, OPAQUE PAINT IN SOLID COLORS AND OF A THICK CONSISTENCY. IT WILL STAY LIQUID IN THE JAR BUT DRIES FAIRLY FAST ON PAPER (DRIES BY ABSORBTION; ON SOFTER PAPER IT DRIES FASTER, ON COATED PAPER IT DRIES SLOWER). THE CONTAINERS ARE MADE SO THE TIP OF YOUR BRUSH CAN BE WIPED OFF LOWER ON THE INSIDE OF THE LIP CONTAINER. AVOID WIPING YOUR BRUSH ON THE EDGE OF LIP, AS THE EXCESS MAY RUN DOWN THE SIDE AND REQUIRE EXTRA CLEANING. TO INK A BRUSH, WIPE ABOUT HALF THE HAIR ACROSS THE TOP OF THE PAINT. IF DONE CAREFULLY, YOU WILL NOT HAVE TO WIPE OFF EXCESS. HOLD THE BRUSH AS YOU WOULD A PENCIL.

INFORMATION

AS YOU ACTUALLY START PAINTING A WORD, PAINT ONLY WITH THE TIP OF THE HAIR; YOU CAN PAINT 3 OR 4 LETTERS THIS WAY. FOLLOWING YOUR "STICK" LETTER, GO BACK TO THE FIRST LETTER YOU DID AND BRUSH IN THE BODY. USE A LITTLE PRESSURE ON THE HAIR TO CONTROL THE THICKNESS AND SPREAD THE HEAVY LAYER OF PAINT.

YOU WILL PRACTICE FIRST. IT HELPS TO BRACE YOUR HAND WHILE PAINTING. ALWAYS START NEAR THE UPPER LEFT OF YOUR POSTER. REMEMBER, YOU DO NOT WANT TO SMEAR WET PAINT. YOUR HANDS MUST BE CLEAN AS NATURAL OILS WILL BUILD UP ON YOUR PALM AND MAY GET ONTO THE POSTERBOARD PAPER, PREVENTING THE PAINT FROM DRYING OR STICKING THERE. TO AVOID THIS, REST YOUR PALM ON SCRAP PAPER, COVERING THE LOWER PORTION OF THE POSTER. SOME SIGNPAINTERS USE A LONG STICK TO SUPPORT THEIR PALM (PALM ON CENTER WITH NEAR END HELD IN LEFT HAND). AS YOU PAINT, MOVE YOUR BRUSH HAND EVERY INCH AND AVOID TRYING TO PAINT TOO MUCH HORIZONTAL LINE AT ONCE.

A VERY COMMON PROBLEM IS TRYING TO PAINT TOO MUCH AREA AT ONCE OR TRYING TO CARRY TOO MUCH INK. A NUMBER 4 OR 5 BRUSH SHOULD WORK FOR ALL OF THE PAINTING NECESSARY IN THE "CARD" AND "POSTER" MODS. AFTER THE PAINT IS DRY ON YOUR SIGNS, CAREFULLY SCRAPE AND SCRATCH OFF UNWANTED PAINT WITH A RAZOR BLADE.

JOB STEPS

1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

2. ON THE 7" X 11" POSTERBOARD IN A LIGHT BLUE PENCIL, DRAW THE FOLLOWING PAIRS OF LINES SO YOU CAN PRACTICE PAINTING IN LETTERS (USE 7" AS THE WIDTH AND LINES SHOULD BE 6" LONG, PAIRS 1/2" APART):

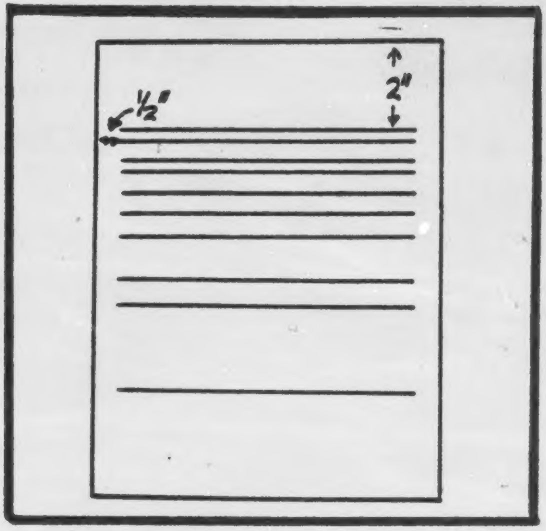
A. TWO PAIR OF LINES, FOR 1/4" TYPE.

B. A PAIR FOR 1/2" TYPE.

C. A PAIR FOR 1" TYPE.

D. A PAIR FOR 2" TYPE.

NOTE: START THE FIRST PAIR ABOUT 2" FROM THE TOP OF THE POSTERBOARD AND 1/2" FROM THE SIDES (SEE ILLUSTRATION).

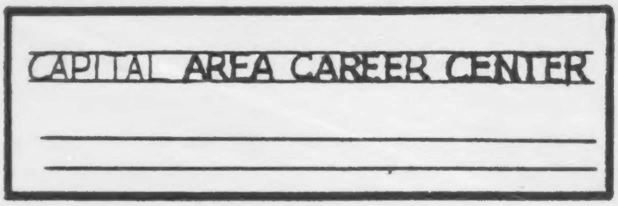


3. WITH A PENCIL (BLUE, 4H, OR SOFT), SKETCH IN THE FOLLOWING ON THESE LINES:

A. CAPITAL AREA CAREER CENTER
B. GRAPHIC COMMUNICATIONS
C. SIGNPAINTING
D. MASON
E. USA

NOTE: IT IS NOT IMPORTANT TO CENTER THESE LINES IN THE SPACE GIVEN; THEY SHOULD ALL EASILY FIT. SPREAD A NEWSPAPER OUT AND WORK ON THIS - WORK CLEAN AND IMMEDIATELY CLEAN UP ANY PAINT YOU SPILL.

4. USE A #1 OR 2 BRUSH TO LETTER IN THE WORD, "CAPITAL". USE A #3 TO LETTER IN THE WORD, "AREA". USE A #4 FOR THE WORD, "CAREER" AND A #5 FOR THE WORD, "CENTER". ALL THESE WORDS ARE IN THE FIRST LINE AND ARE 1/4" HIGH. USE BLACK TEMPRA POSTERPAINT AND FOLLOW THE SUGGESTIONS GIVEN UNDER "INFORMATION" OF THIS MODULE.



JOB STEPS

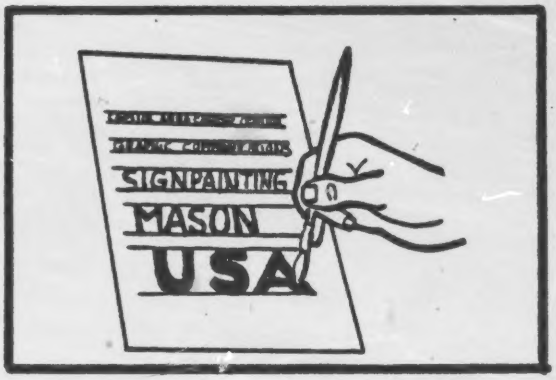
5. CLEAN EACH BRUSH AFTER YOU USE IT AND HANG TO DRY.

6. PAINT IN THE SECOND LINE, "GRAPHIC COMMUNICATIONS" WITH WHICHEVER SIZE BRUSH YOU WISH. DO NOT WORRY ABOUT QUALITY; THAT WILL COME WITH EXPERIENCE.

7. USING A LARGER SIZE BRUSH, PAINT THE THIRD LINE, "SIGNPAINTING".

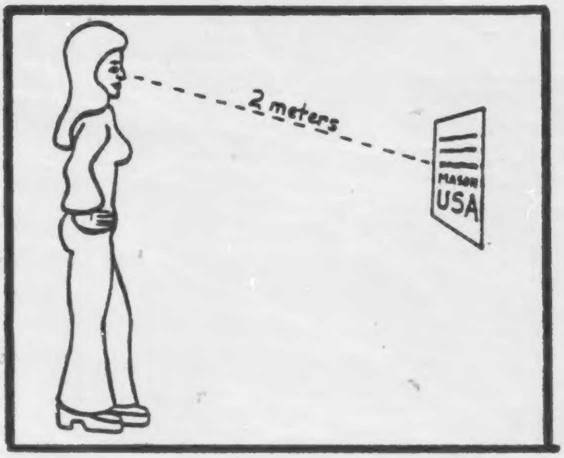
8. USING ROMAN TYPE FACE, PAINT THE WORD, "MASON" ON THE FOURTH LINE.

9. ON THE LAST LINE, PAINT "USA" IN 2" LETTERS.



10. BE SURE ALL BRUSHES ARE CLEAN AND HUNG "HAIR DOWN" TO DRY AND THAT THE TIPS ARE EACH TO A POINT. CHECK CLEANLINESS BY SQUEEZING WITH A WHITE PAPER TOWEL AND RESHAPE THE POINT. THEN, CLEAN THE LIP OF THE PAINT CAN OR JAR WITH A PAPER TOWEL.

11. PLACE YOUR SIGN UPRIGHT IN THE HALLWAY (TAPE TO WALL OR DOOR). CHECK THE SIZE OF THE SQUARES AND MEASURE OFF 2 METERS, 8 METERS, AND 20 METERS. NOTICE WHAT SIZES YOU CAN OR CANNOT READ AT THESE DISTANCES.



12. SHOW YOUR PRACTICE SIGN TO THE INSTRUCTOR/MANAGER AND DISCUSS READABILITY AND YOUR PAINTING TECHNIQUES.

13. TAKE THE FINAL LAYOUT FROM MOD #1401 07 025, 8 1/2" X 11" POSTERBOARD "CARDS", AND SKETCH IN THE LETTERS. THEN, PAINT THIS WITH BLACK AND TWO OTHER COLORS. BE SURE YOUR BRUSHES ARE VERY CLEAN (DO NOT LET THEM DRY WITH ANY PAINT ON THEM).

JOB STEPS

14. HAVE SOMEONE EVALUATE YOUR WORK AND GIVE IT THE ACTUAL DISTANCE TEST (BE SURE THE PAINT IS DRY).

15. TAKE THE FINAL LAYOUT FROM MOD #1401 07 026, 11" X 14", POSTERBOARD "POSTERS", AND SKETCH IN THE LETTERS. THEN, PAINT THIS WITH BLACK AND ONE OTHER COLOR. DO NOT RUSH.

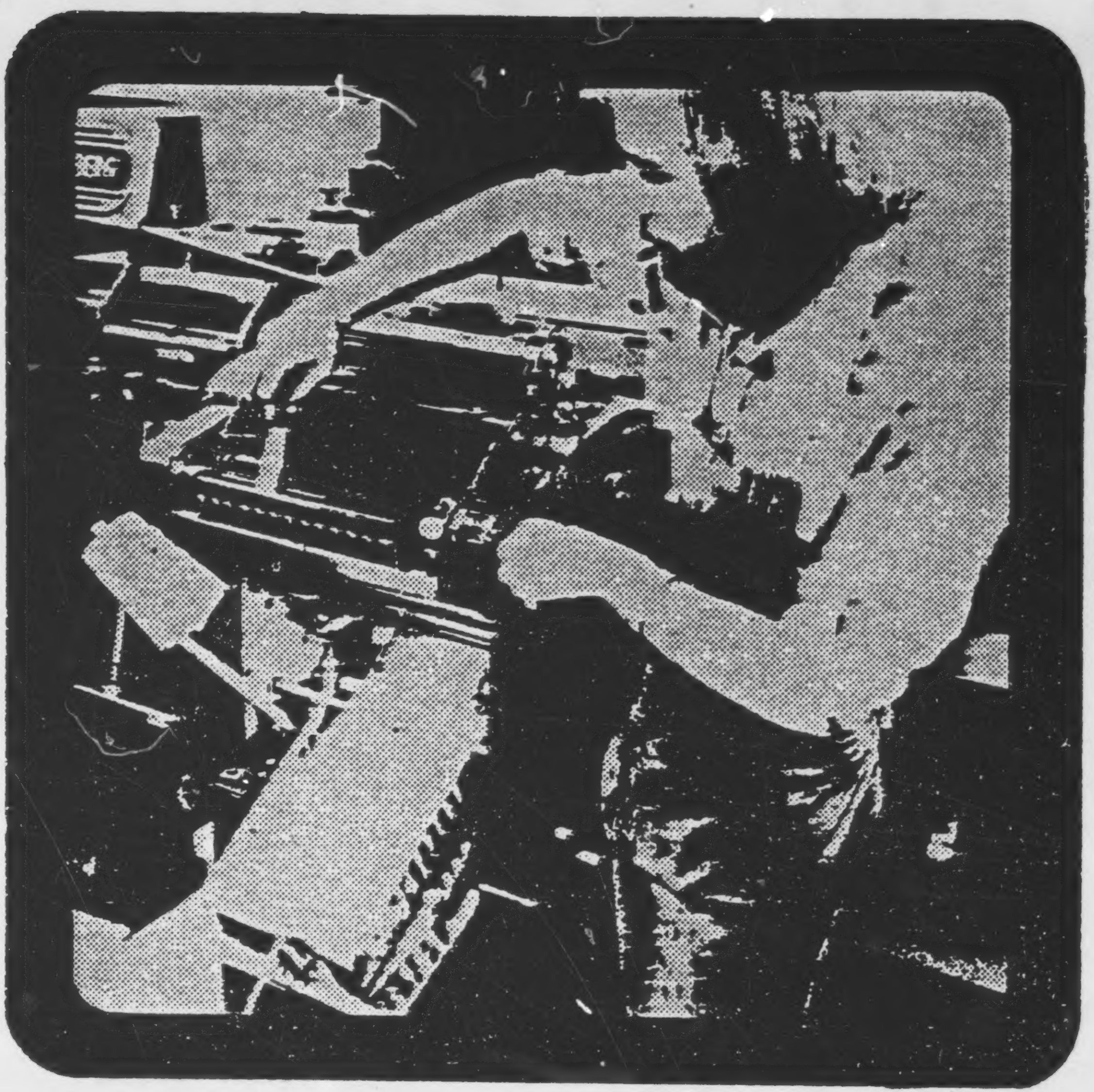
16. HAVE THE INSTRUCTOR/MANAGER OBSERVE THESE LAST TWO SIGNPAINTINGS; THEY WILL BE DISTANCE TESTED IN THE LAB AND THEN EVALUATED. BE SURE TO SIGN (PAINT) YOUR NAME IN THE LOWER RIGHT-HAND CORNER OF EACH PIECE YOU DO.

17. CLEAN YOUR AREA AND DOUBLE-CHECK THAT ALL BRUSHES ARE VERY CLEAN.

A. CLEAN OUT BOTH WASHER CUPS, WITH WARM WATER, DRY AND RETURN THEM TO THE STAND. LEAVE YOUR BRUSHES IN THE STAND TO DRY.

B. CHECK ALL THE JARS OF PAINT YOU USED AND BE SURE THEY ARE VERY CLEAN. DO NOT SCREW THE CAPS ON TOO TIGHT.

C. DISCARD ALL SCRAP PAPER AND CHECK THE WHOLE WORK AREA FOR PAINT SPILLS OR STAINS.



graphics

unit: SPECIAL PROCESSES

capital area career center

module: 1401 15 005
1401 15 005 3 **date:** 8/77 **level:**

skill title: SIGNPAINTING: LARGER POSTERS AND SIGNS

developed & written by: GLEN PETTIT

visuals by: DAVE BROWN

WORD GUIDE

ASSORTED - DIFFERENT KINDS OF.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO USE THE GIVEN LAYOUT TO SKETCH AND THEN SIGNPAINT THIS LARGE POSTER, USING POSTERPAINT AND BRUSHES.

IN ORDER TO DO THIS YOU WILL NEED:

A LARGER POSTER OR SIGN LAYOUT
4-PLY POSTERBOARD (22" X 28")
BLACK POSTERPAINT
NEWSPAPER
PAPER TOWELS
ASSORTED LARGE BRUSHES
BRUSH WASH STAND

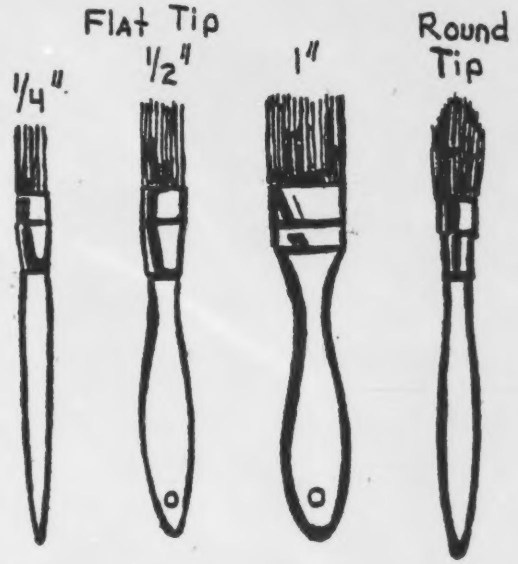
WE WILL KNOW YOU CAN DO IT WHEN:

1. THE FINAL PRODUCT IS NEAT, CLEAN, AND SHARP AND CAN EASILY BE READ FROM 20 METERS.
2. IT HAS APPROPRIATE MARGINS AND SPACING, AND COMPLIMENTARY TYPE-FACES.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

LARGER SIGNS REQUIRE MUCH LARGER TYPE IF THEY ARE TO BE READ FROM A DISTANCE. THE TYPE MUST BE BOLDER AND MORE OPEN THAN FOR SMALLER POSTERS. LARGER BRUSHES ARE USED SO THEY COVER MORE AREA QUICKLY AND CAN CARRY MORE PAINT. THEIR SIZES ARE USUALLY GIVEN AS THE WIDTH OF THE BRUSH OR HAIR, SUCH AS 1/4", 1/2" OR 1".



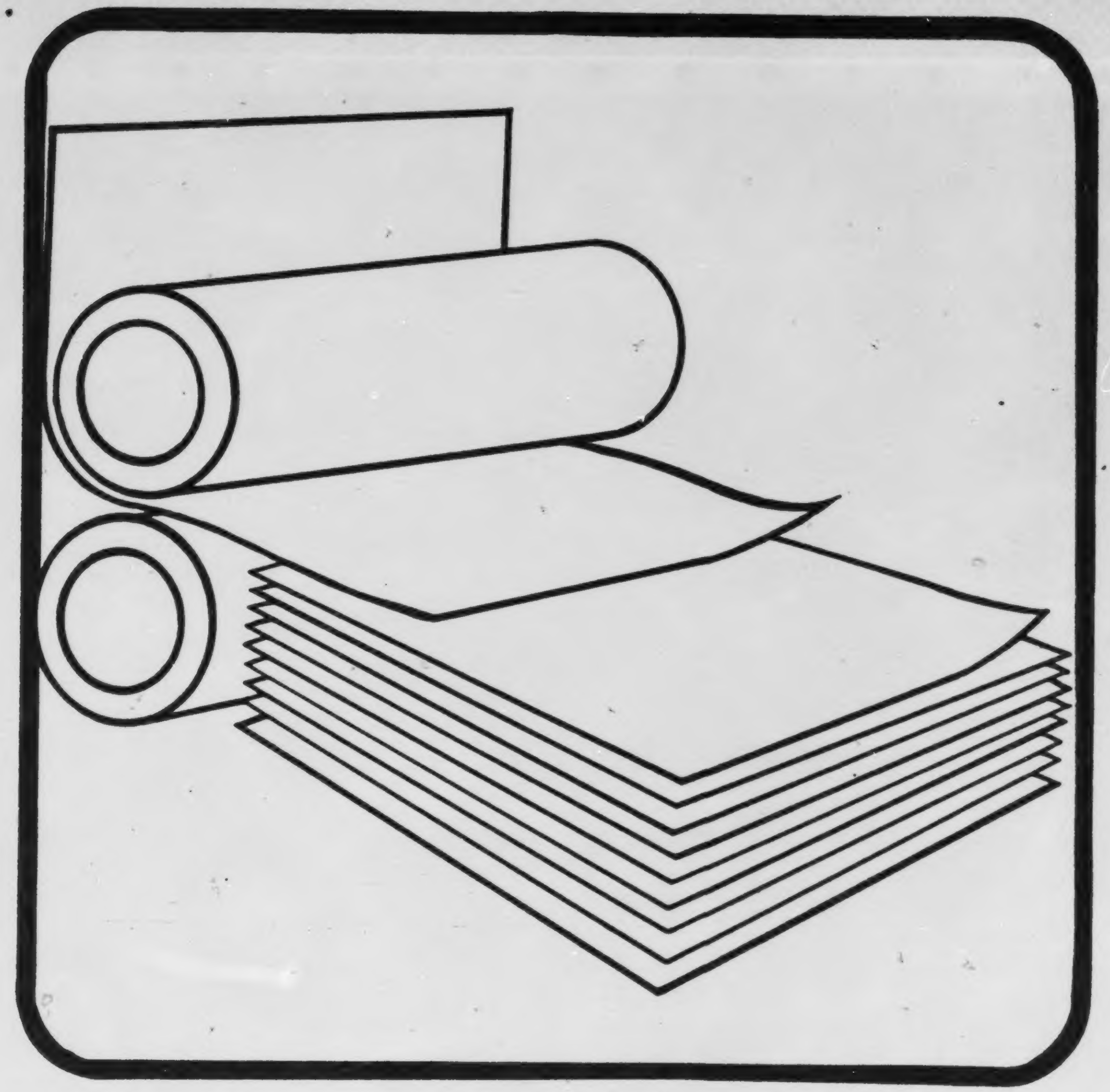
LARGE BRUSHES WITH ROUNDED TIPS ARE MEASURED BY THEIR GREATEST DIAMETER IN THE SAME MANNER. A 1" LARGE BRUSH WILL RANGE IN COST FROM 75¢ TO $8.00, AVERAGING ABOUT $2.00. THEY ARE USED AND CARED FOR MUCH THE SAME AS SMALLER BRUSHES (MODULE NUMBER 1401 15 004).

WITH A FLAT TIP BRUSH, YOU CAN ALSO CONTROL THE LINE WIDTH (WEIGHT OR BOLDNESS) BY TURNING THE BRUSH SLIGHTLY AS YOU PAINT. IT IS IMPORTANT TO HAVE FREE BODY MOVEMENT WHEN PAINTING LARGE SIGNS. WHITE PAINTING LARGE SIGNS, DO NOT SIT OR LEAN.

YOU ARE GOING TO LEARN HOW TO PAINT A LARGE POSTER (22" X 28") IN BLACK POSTERPAINT USING LARGE FLAT-TIP BRUSHES.

JOB STEPS

1. TAKE ALL MATERIALS AND EQUIPMENT TO YOUR WORK AREA.
2. ON LARGE POSTER BOARD SKETCH THE SIGN FROM THE FINAL LAYOUT (MODULE NUMBER 1401 07 027). SINCE THE LAYOUT IS 1/4 SIZE, YOU MUST MULTIPLY ALL YOUR MEASUREMENTS BY 4.
3. FIRST, PRACTICE PAINTING SAMPLES OF THE DIFFERENT SIZE LETTERS ON SCRAP PAPER AND BECOME FAMILIAR WITH THE LARGE BRUSHES.
4. PAINT THE LARGE POSTER (ON LARGE POSTER BOARD 22" X 28" AND BLACK POSTER PAINT).
5. HAVE THE INSTRUCTOR, MANAGER CHECK YOUR WORK. TEST ITS READABILITY FROM 20 METERS. SECURE YOUR AREA.



graphics

unit: SPECIAL PROCESSES

capital area career center

1401 15 006

module: 1401 15 006 3 **date:** OCTOBER 1977 **level:** II

skill title: OPERATING THE SIGNPRESS

developed & written by: GLEN PETTIT

visuals by: DAVE BROWN

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO ACCEPT REQUESTS, DESIGN, SELECT TYPE-STYLES AND SIZES, COMPOSE THE TYPE, POSITION IN THE PRESS AND PRINT IN SEVERAL COLORS.

IN ORDER TO DO THIS YOU WILL NEED:

A SIGNPRESS MACHINE WITH UNIT
REQUESTS TO PRINT SEVERAL POSTERS
7" X 11" 4-PLY POSTERBOARD
11" X 14" 4-PLY POSTERBOARD

WE WILL KNOW YOU CAN DO IT WHEN:

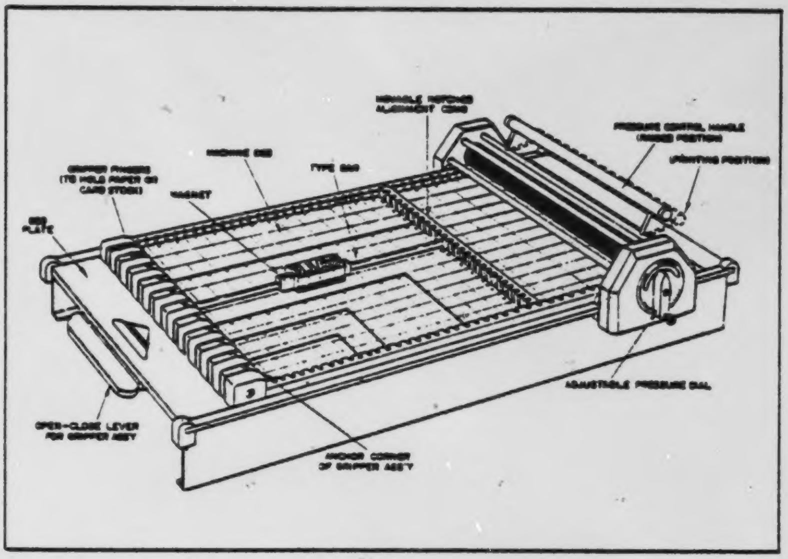
1. IN LESS THAN THREE HOURS, YOU CAN PRODUCE SEVERAL ATTRACTIVE, MULTI-COLOR POSTERS AND BASICALLY DESIGN AND COMPOSE A PLEASING FORM OF APPROPRIATE TYPE STYLES AND SIZES.
2. YOU CAN POSITION THE TYPE IN THE SIGNPRESS, INK IT AND PRINT THE POSTERS.
3. THE FINAL PRODUCTS ARE NEAT, CLEAN, STRAIGHT AND PROPERLY INKED WITH ADEQUATE PRESSURE TO MAKE THEM ATTRACTIVE.
4. YOU CLEAN AND REPLACE THE TYPE IN THE CASE AND YOU CLEAN THE ENTIRE AREA.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

BEFORE GOING TO THE SIGNPRESS OR DOING THE JOB STEPS, READ THE INSTRUCTION BOOK FOR THE SIGNPRESS.

NOW, BE SURE THAT YOU KNOW THE NAMES OF THE DIFFERENT PARTS OF THE SIGNPRESS AND WHAT EACH DOES.


MOVABLE NOTCHED ALIGNMENT COMB
PRESSURE CONTROL HANDLE (RAISED POSITION)
(PRINTING POSITION)
MACHINE BED
TYPE BAR
GRIPPER FINGERS (TO HOLD PAPER OR CARD STOCK)
MAGNET
INK PLATE
ADJUSTABLE PRESSURE DIAL
OPEN-CLOSE LEVER FOR GRIPPER ASS'Y
ANCHOR CORNER OF GRIPPER ASS'Y

ON A SHEET OF SCRAP PAPER, WRITE YOUR ANSWERS TO THE FOLLOWING SELF QUIZ. WHEN COMPLETED, CHECK YOUR ANSWERS BY GOING OVER THE INSTRUCTION BOOK AGAIN. SCORE TWO POINTS IF YOUR FIRST ANSWER IS CORRECT, ONE POINT IF YOU CORRECTED IT FROM THE INSTRUCTION BOOK. YOU SHOULD SCORE AT LEAST 85% CORRECT (MULTIPLY TOTAL POINTS BY 5 TO GET YOUR PERCENTAGE SCORE). CHECK ANY ANSWERS YOU COULD NOT FIND BY LOOKING AT THE ANSWERS ON THE BOTTOM OF THE NEXT PAGE.

IF YOU DID NOT SCORE AT LEAST 85%, YOU ARE NOT READY TO CONTINUE THIS MOD. SEE YOUR INSTRUCTOR.

SELF QUIZ:

1. WHAT IS TYPE?

2. WHY SHOULD YOU AVOID OVERINKING?

3. WHAT IS THE PURPOSE OF THE ANCHOR CORNER?

4. WHAT DO THE "V'S" ON THE BED OF THE MACHINE SHOW?

5. HOW DO YOU ADJUST THE PRESSURE ON THE CARRIAGE?

6. WHY SHOULD THE INK CAPS BE KEPT CLEAN?

INFORMATION

7. WHAT CAUSES BLURRED IMAGES?

8. WHAT IS THE SIZE OF THE LARGEST SHEET WE CAN PRINT?

9. CAN PICTURES OR ILLUSTRATIONS BE PRINTED HERE?

10. THE RULE FOR SPACING HERE IS: SPACE BETWEEN WORDS SHOULD BE ABOUT _____% OF THE HEIGHT OF THE TYPE USED.

STUDY THESE HINTS BEFORE GOING ON WITH THIS MODULE:

* WHEN SPREADING INK ON THE INK PLATEN, ALWAYS ROLL INWARD AND TRY NOT TO EXCEED A 4-5 RADIUS. IN CLEANING, DOING THE SAME REDUCES THE AREA NECESSARY TO CLEAN.

* A THIN LAYER OF OIL OR HAND CLEANER RUBBED ON YOUR HANDS BEFORE YOU WORK WITH THE INK MAKES CLEANING YOUR HANDS A LOT EASIER WHEN FINISHED. IT KEEPS THE INK OUT OF THE "CRACKS & WRINKLES" IN YOUR FINGERS.

* REMOVE ANY INK THAT GETS ON YOUR FINGERS AS SOON AS IT GETS THERE. OTHERWISE, YOU WILL HAVE FINGERPRINTS ON EVERYTHING.

* TO SAVE POSTERBOARD WHEN CHECKING POSITIONING AND SPELLING, USE A SCRAP PIECE OF REGULAR PAPER CUT TO THE SAME SIZE AS THE STACK YOU ARE USING. PLACE THIS UNDER A USED POSTERBOARD WHEN PRINTING. WHEN USING TUBES OF INK, SQUEEZE IN ANY EXCESS INK AND CLEAN THE SCREW OPENING (AND CAP IF NECESSARY). APPLY A THIN LAYER OF OIL NOW AND BACK OFF THE CAP 1/4 TURN WHEN IT IS ON TO PREVENT THE CAP FROM GETTING "FROZEN" ON BY DRY INK.

* WHEN SPACING TYPE ON A LINE, NORMALLY HAVE ABOUT HALF THE DISTANCE BETWEEN WORDS AS THE ACTUAL HEIGHT OF THE TYPE IMAGE (1/2" HIGH TYPE WOULD HAVE 1/4" BETWEEN THE WORDS).

* NORMAL INKS WILL TAKE ABOUT 24 HOURS TO DRY (DAMP OR COLD DAYS LENGTHEN DRYING TIME). FOR INSTANT DRYING, ROSIN OR VIRKOTYPE POWDER MAY BE APPLIED TO THE WET INK AND THEN HEATED SO IT WILL MELT AND HARDEN INTO THE INK (MOD #1401 15 003, "EMBOSSING WITH VIRKOTYPE POWDER").

* YOU SHOULD FIND SAMPLES OF POSTERS DONE BY OTHER STUDENTS IN THE "GRAPHICS" BOX UNDER THE SIGNPRESS. BLANK POSTERBOARD (USE ONLY OUR POSTERBOARD) AND SCRAP PAPER SHOULD ALSO BE IN THE "GRAPHICS" BOX.

INFORMATION

NOW YOU ARE READY TO TRY THE JOB STEPS. BY DOING THE JOB STEPS, YOU WILL BECOME FAMILIAR WITH THE SIGNPRESS PRINTING UNIT BY DESIGNING, COMPOSING AND PRINTING TWO DIFFERENT SIGNS ON THIS MACHINE.

1. NAME AND SCHOOL (SET YOUR NAME ON ONE LINE AND HOME SCHOOL ON ONE LINE, BOTH CENTERED).
2. "NOTICE" (PRODUCE A 3-COLOR SIGN WITH AT LEAST 3 LINES AND 12 WORDS OR MORE).

SELF-QUIZ ANSWERS:

1. METAL OR WOOD CHARACTERS WHICH PRINT THE WORDS.
2. DIFFICULT CLEANING, SLOW DRYING.
3. FOR EXACT REGISTER.
4. CENTER OF SHEET TO BE PRINTED.
5. PRESSURE CONTROL DIAL.
6. PREVENT FROM FREEZING.
7. PAPER OR TYPE HAS MOVED.
8. 14" X 22"
9. YES - AS A CUT
10. 50%

WORD GUIDE

TYPE - METAL (LEAD) OR WOOD LETTERS .918" HIGH, USED TO COMPOSE WORDS FOR PRINTING.

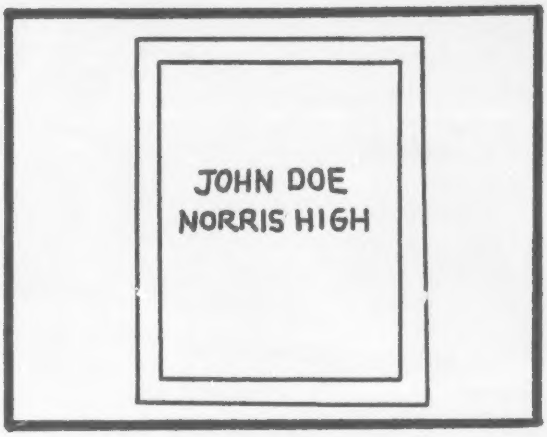
COPY - THE ORIGINAL WORDS OR DESIGN THAT TELL WHAT TO DO. USUALLY GIVEN TO THE PRINTER.

JOB STEPS

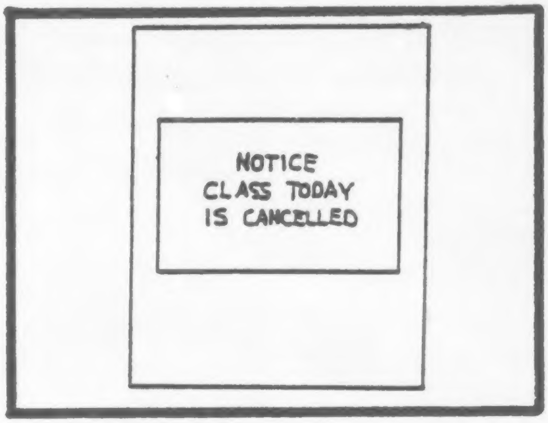
1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA. GET SOMEONE WHO IS EXPERIENCED WITH THE SIGNPRESS TO SPEND NO MORE THAN 10 MINUTES SHOWING YOU WHAT TO DO FOR THIS MOD.

2. MAKE A ROUGH LAYOUT OF THE COPY FOR EACH OF THE TWO JOBS YOU WILL BE PRINTING: USE 8 1/2" X 11" #20 PAPER FOR THESE LAYOUTS AND CHECK THE TYPE DRAWERS FOR ACTUAL SIZE (7" X 11"). THE SECOND MUST BE 1/2 SIZE (5 1/2" X 7").

A. DRAW YOUR NAME - CENTERED ON ONE LINE - IN LARGE TYPE AND YOUR HOME SCHOOL ABOUT 5CM BELOW YOUR NAME IN A SMALLER TYPE FACE, CENTERED. THE TWO LINES SHOULD BE BALANCED IN THE CENTER OF A 7" X 11" POSTERBOARD. TRY TO DRAW YOUR LAYOUT THE SAME SIZE AS THE TYPE.



B. MAKE A LAYOUT WITH AT LEAST THREE LINES OF TYPE THAT CAN BE PRINTED IN THREE COLORS AT ONCE. THIS "NOTICE" CAN BE PRINTED IN ANY 3 COLORS. THE COPY CAN BE ALMOST ANYTHING (EXAMINE WORK DONE BY OTHER STUDENTS, IN BOX MARKED "GRAPHICS" UNDER SIGNPRESS) OR ASK THE INSTRUCTOR IF THERE ARE ANY REQUESTS. YOUR LAYOUT SHOULD BE 5 1/2" X 7", WHICH IS 1/2 SIZE FOR THE 11" X 14" POSTERBOARD YOU WILL BE USING. INDICATE TYPE-SIZES IN PROPORTION TO WHAT YOU WILL ACTUALLY BE USING.



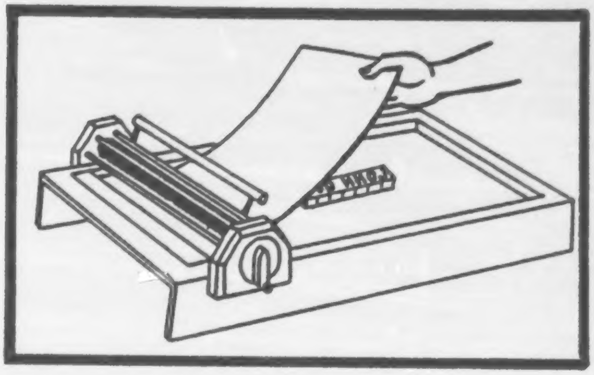
WORD GUIDE

PLATEN - A FLAT SURFACE, EITHER (1) FOR SPREADING INK OUT WHEN MIXING, OR (2) FLAT SURFACE WHICH HOLDS THE PAPER IN LETTERPRESS PRINTING.

BRAYER - RUBBER COMPOSITION ROLLER USED TO INK TYPE.

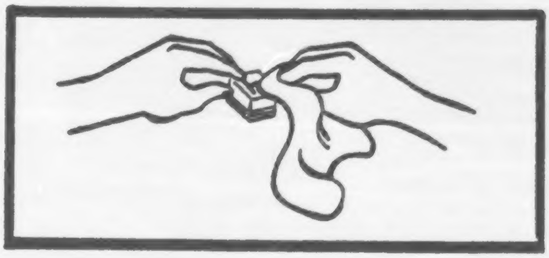
JOB STEPS

3. HAVE THE INSTRUCTOR/MANAGER CHECK YOUR LAYOUTS BEFORE YOU START. YOU MUST HAVE HIS/HER INITIALS BEFORE STARTING.



4. SET YOUR TYPE AT SIGNPRESS AND POSITION IT ON THE BED. USE AN OLD PIECE OF SCRAP POSTERBOARD (7" X 11") TO GET POSITION (OR CUT SOME SCRAP PAPER TO SIZE), AND USED POSTERBOARD FOR POSITIONING. CHECK FOR CENTERING, SPELLING, AND QUALITY.

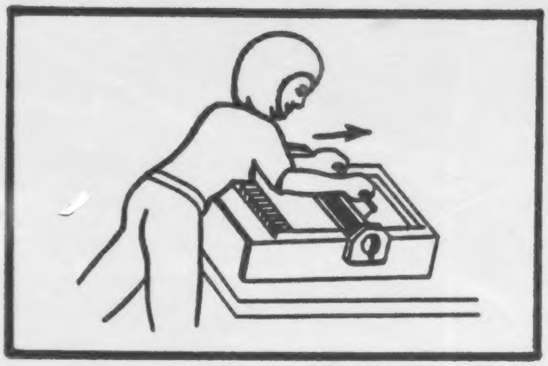
5. PRINT ONLY 4 COPIES OF POSTER #A (NAME AND SCHOOL). AFTER THEY HAVE DRIED 24 HOURS, TURN IN ONE SIGN AND KEEP THREE FOR YOURSELF.



6. WITH A RAG AND TYPE CLEANER, CLEAN THE TYPE VERY CAREFULLY. DO NOT DROP ANY TYPE, AS THE SOFT LEAD WILL DAMAGE EASILY.

7. RETURN THE TYPE AND SPACES TO THE EXACT LOCATION WHERE YOU FOUND THEM. CHECK TO BE SURE ALL TYPE IS IN ORDER AND CORRECT ANY THAT IS NOT (EVEN IF IT WAS THAT WAY BEFORE).

JOB STEPS



8. SET THE TYPE FOR POSTER #B (NOTICE), FOR 11" X 14" POSTER-BOARD. BE SURE TO CAREFULLY DOUBLE-CHECK POSITION. YOU CAN HAVE 3-4 COLORS OF INK ON THE INK PLATEN (PLATE) AT ONCE, USING 3-4 BRAYERS (ROLLERS). USE SCRAP TO GET POSITION. PRINT ONLY THREE OF THESE LARGE 11" X 14" NOTICES (UNLESS YOU WERE GIVEN A PRODUCTION JOB).

9. CLEAN THE TYPE CAREFULLY AND RETURN TO THE CASES. CLEAN THE BRAYERS AND INK PLATEN. CAREFULLY CHECK THE ENTIRE AREA TO BE SURE EVERYTHING IS CLEAN, SPOTLESS, PUT AWAY NEATLY AND WHERE IT BELONGS.

10. AFTER THEY ARE DRY, SHOW BOTH OF YOUR POSTERS TO THE INSTRUCTOR/ MANAGER.

graphics

unit: SPECIAL PROCESSES

capital area career center

module: 1401 15 007
1401 15 007 3 date: 10/77 level: II

skill title: OPERATING A SPIRIT DUPLICATOR (AND MAKING A SPIRIT MASTER)

developed & written by: GLEN PETTIT

visuals by: LAURA EIBACH

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SPIRIT DUPLICATOR - A PROCESS WHERE A PIGEMENTED
FLUID DUPLICATOR CARBON-WAX IS SOFTENED BY
DITTO MACHINE SPIRIT ALCOHOL AND DIRECTLY TRANSFERRED TO PAPER. PROBABLY THE LEAST EXPENSIVE, SHORT RUN PRINTING PROCESS. "DITTO" IS A VERY COMMON BRAND NAME.

MASTER - IN SPIRIT DUPLICATING, THIS IS THE PLATE OR PAPER WHICH CAUSES THE CARBON-WAX - THESE ARE USUALLY BOUGHT AS A UNIT: MASTER PAPER, CARBON SHEET AND A TEMPORARY SLIPSHEET BETWEEN THEM.

DUPLICATOR PAPER - THIS IS A VERY SMOOTH PAPER (MIMEOGRAPH IS VERY ROUGH AND THICK; BOND OR OFFSET PAPER IS "AVERAGE" LIKE THE PAPER YOU'RE READING). DUPLICATOR PAPER MUST BE SMOOTH SO IT EASILY ACCEPTS THE WAX BUT DOES NOT EXCESSIVELY WEAR OUT THE WAX IMAGE TOO QUICKLY.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO PREPARE A "SPIRIT DUPLICATOR" FOR OPERATION BY TYPING AND INSERTING A MASTER, STARTING FLUID, CHECKING AND CHANGING IMAGE POSITION BOTH DIRECTIONS, CONTROLLING IMAGE PRESSURE AND CHANGING PAPER SIZE ON BOTH FEED AND DELIVERY.

AND IN ORDER TO DO THIS YOU WILL NEED:

A STANDARD "SPIRIT DUPLICATOR"

SANDPAPER 5 1/2" X 8 1/2"; 8 1/2" X 11"

MASTER (SPIRIT BLUE)

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN RUN ANY BASIC JOB OR PAPER SIZE POSSIBLE ON A SPIRIT DUPLICATOR.
2. YOU CAN RECOGNIZE AND PRODUCE HIGH QUALITY WORK AND DO NORMAL MAINTENANCE REQUIRED.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

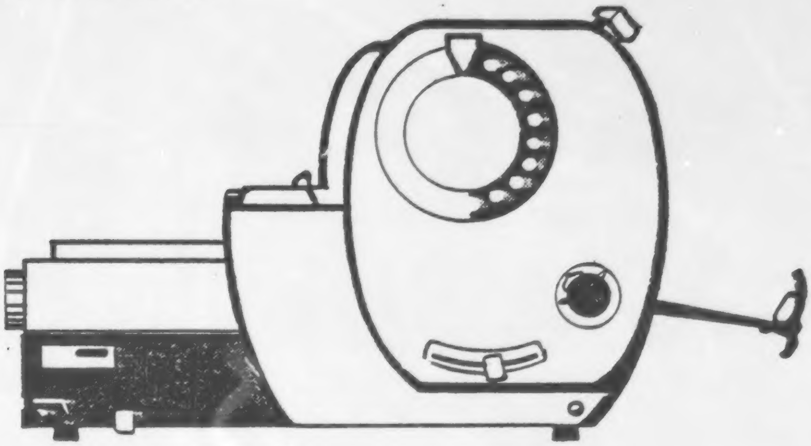
ADHERE - STICK TO

REVOLUTION - FULL TURN

PIGMENTED - COLORED

INFORMATION

"SPIRIT DUPLICATING" GETS ITS NAME FROM THE FLUID IT REQUIRES IN THE "PRINTING" PROCESS. ORIGINALLY, WOOD SPIRITS OR WOOD ALCOHOL WAS USED TO MELT OR SOFTEN A THIN LAYER OF THE REVERSED WAX IMAGE WHICH WAS IMMEDIATELY PRESSED AGAINST A PIECE OF PAPER, PRODUCING THE IMAGE.



THE ORIGINAL COPY IS TYPED (OR WRITTEN) ON A HEAVIER PIECE OF PAPER OR MASTER WITH A SHEET OF CARBON-WAX DIRECTLY UNDER THIS MASTER. AS THE IMAGE IS MADE, THE PRESSURE FORCES SOME OF THE CARBON-WAX TO ADHERE WHERE THE IMAGE APPEARS. SINCE THE WAX IS APPLIED TO THE BACK OF THE MASTER, THE CARBON-WAX IMAGE WILL BE BACKWARDS. ONCE THE IMAGE IS FINISHED, THE MASTER IS PLACED ON THE DUPLICATOR, (WRONG READING, CARBON-WAX SIDE OUT) AND CLAMPED TO A LARGE MASTER CYLINDER. AS THE CYLINDER TURNS, A SOFT WICK APPLIES A SMALL AMOUNT OF FLUID WHICH SOFTENS A THIN LAYER OF WAX. IMMEDIATELY (BEFORE THE WAX HARDENS), THE MASTER CONTACTS THE PAPER WHICH IS ADVANCING THROUGH THE DUPLICATOR. THE WAX HARDENS INSTANTLY TO THE PAPER AND EACH REVOLUTION WILL PRINT A SHEET.

ALL SPIRIT DUPLICATORS OPERATE ON THIS PRINCIPLE: "A PIGMENTED CARBON-WAX IMAGE, SOFTENED BY A FLUID (SPIRIT ALCOHOL) AND TRANSFERED TO PAPER." SOME ARE ELECTRIC, SOME MANUAL. SOME HAVE A SMALL SPIRIT BOTTLE, OTHERS A PUMP. POSITION CAN BE CORRECTED ON ALL MACHINES, FROM 1/2" UP TO 3" ON OTHERS. IMAGE PRESSURE CAN BE ADJUSTED ON ALL MODELS.

INFORMATION

A NEW SPIRIT DUPLICATOR LIKE OUR "ASTRO-DIAL 500" COSTS ABOUT $468.00. ON OTHER BRANDS, COST WILL RANGE FORM $150.00 FOR A NON-ELECTRIC MODEL TO $1000.00 FOR A MORE COMPLETE SYSTEM. GOOD MASTERS COST ABOUT 5-7¢ EACH (COLORS ABOUT 10¢ EACH). FLUID COSTS ABOUT $1.00 PER GALLON (WHICH SHOULD LAST FOR ABOUT 200 MASTERS PRINTING 100 COPIES EACH).

USED MACHINES IN WORKING CONDITION (MANUAL CAN OFTEN BE PURCHASED FOR $15.00 TO $50.00 EACH. PAPER IS THE MOST EXPENSIVE ITEM, COSTING ABOUT $3.00 PER REAM IF BOUGHT IN QUANTITY (JAN. 1974). SPIRIT DUPLICATING IS BEST FOR JOBS OF 10 TO 200 COPIES (QUALITY IS LIMITED). IT IS POSSIBLE TO MAKE SPIRIT MASTERS ON THE "ASTRO-FOX" MASTER MAKER (WHICH WE HAVE IN THE LAB) OR A SIMILAR "THERMOFAX" COPYING MACHINE.

WORD GUIDE

COUNTERCLOCKWISE - TO THE LEFT.

JOB STEPS

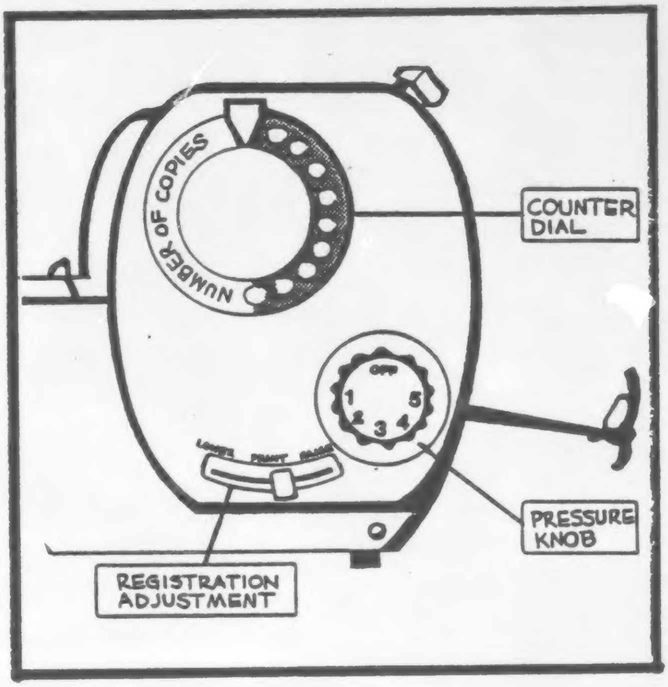
1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

2. GET THE SCRAP PAPER YOU WILL BE USING; YOU WILL NEED APPROXIMATELY 250 OF EACH SIZE (THERE MAY BE SOME LOCATED IN A MARKED BOX IN THE CABINET THE SPIRIT DUPLICATOR IS ON).

3. CAREFULLY READ OVER THE FOLLOWING OPERATING INSTRUCTIONS FOR OUR MACHINE.

   A. PRESSURE KNOB. ROTATION STARTS MOTOR, FLUID FLOW, SETS COPY PRESSURE. AVERAGE SETTING, 3.

   B. COUNTER DIAL. SETS MACHINE FOR COPIES DESIRED. DIAL COUNTERCLOCKWISE NEAREST MULTIPLE OF 10, THEN ADDITIONAL SINGLE COPIES. TO BEGIN RUN, PRESS BUTTERFLY LEVER, MACHINE STOPS AUTOMATICALLY AFTER RUNNING SELECTED NUMBER UP TO 200. WHEN APPROXIMATELY 10 SHEETS OF PAPER REMAIN IN FEED TRAY, THE "MULTIPLE" COPY OPERATION IS AUTOMATICALLY INTERRUPTED TO AVOID RUNNING OUT OF PAPER. THIS IS A GOOD TIME TO RELOAD TRAY. YOU CAN NOW CONTINUE RUN WITHOUT LOSING COUNT. HOWEVER, IF DESIRED THE LAST FEW SHEETS MAY BE FED BY HOLDING DOWN THE "SINGLE" COPY CONTROL.



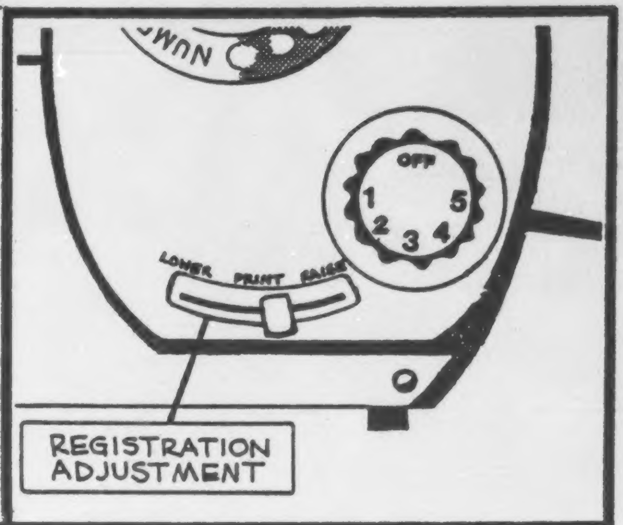
WORD GUIDE

CALIBRATED - SET EXACTLY.

ALIGN - PUT IN PROPER POSITION.

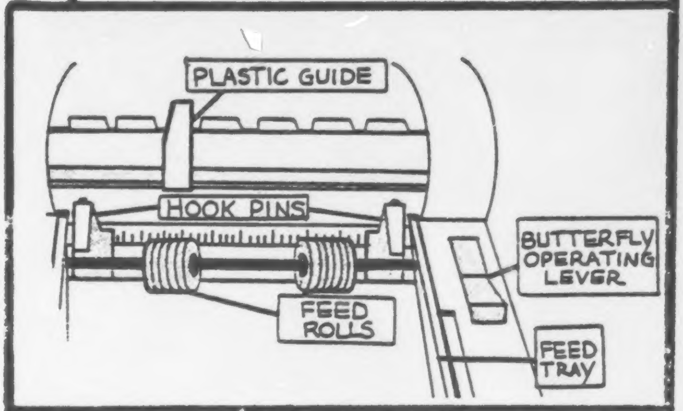
JOB STEPS

C. REGISTRATION ADJUSTMENT. PUSH IN TO RELEASE, THEN SWING LEVER TOWARD "RAISE" TO MOVE PRINT UP ON COPY SHEET; TOWARD "LOWER" TO DROP PRINT.


NUM
OFF
1
2
3
4
5
LOWER
PRINT
RAISE
REGISTRATION ADJUSTMENT

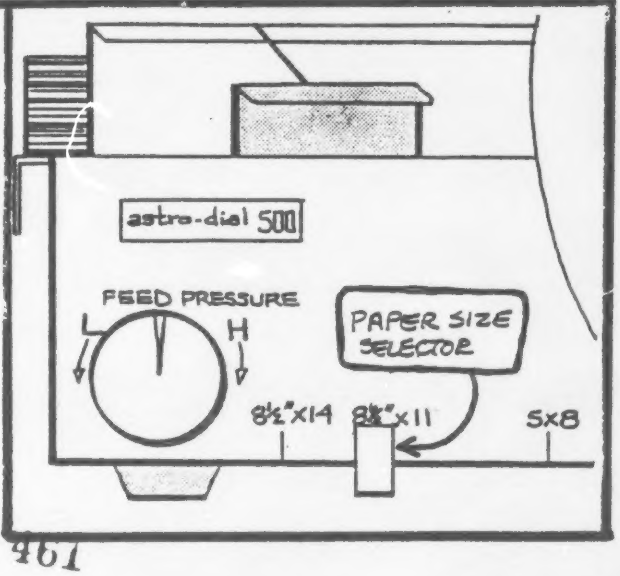
D. MASTER ATTACHING PROCEDURE (1/4" BLANK ATTACHING MARGIN IS REQUIRED. TO OPEN CLAMP SLOT, MOVE LEVER TO RIGHT TO ATTACH MASTER, HOLD AS SHOWN WITH CARBON SIDE DOWN. SEAT EVENLY TO AVOID WRINKLING. LAY MASTER BACK OVER DRUM, CARBON SIDE UP. CENTER FEEDING IS PREFERABLE. SLIDING PLASTIC GUIDE ON CALIBRATED ROD ALIGNS MASTER ON DRUM WITH PAPER IN FEED TRAY.

E. BUTTERFLY OPERATING LEVER. PRESS "SINGLE" FOR ONE COPY, "MULTIPLE" FOR COPIES ACCORDING TO NUMBER SET ON DIAL. TO STOP MACHINE DURING RUN, PRESS "SINGLE".


PLASTIC GUIDE
HOOK PINS
BUTTERFLY OPERATING LEVER
FEED ROLLS
FEED TRAY

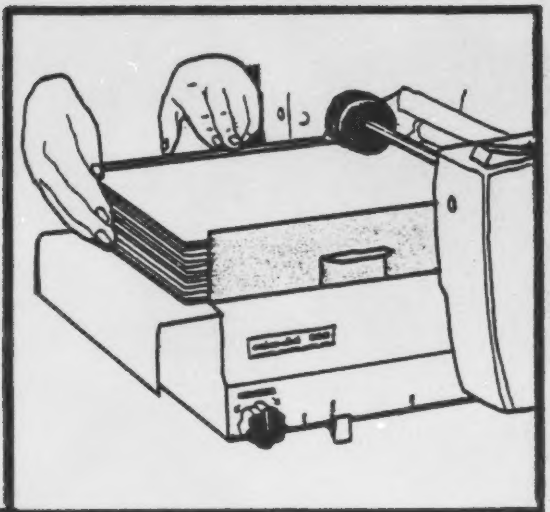
F. REAM FEED TRAY. CENTER ALL SIZE SHEETS FOR BEST FEEDING AND PRINTING. USE WHITE LINE ON HOOK PAPER STRIPPER PINS TO LINE UP GUIDES WITH SCALE. SLIDING GUIDES ARE POSITIONED BY LIFTING RELEASE LEVERS.

G. THE PAPER-SIZE SELECTOR SHOULD BE SET TO THE SIZE OF COPIES BEING FED OR TO THE NEAREST APPROXIMATE CALIBRATION.


astro-dial 500
FEED PRESSURE
L
H
PAPER SIZE SELECTOR
8½"x14
8½"x11
5x8

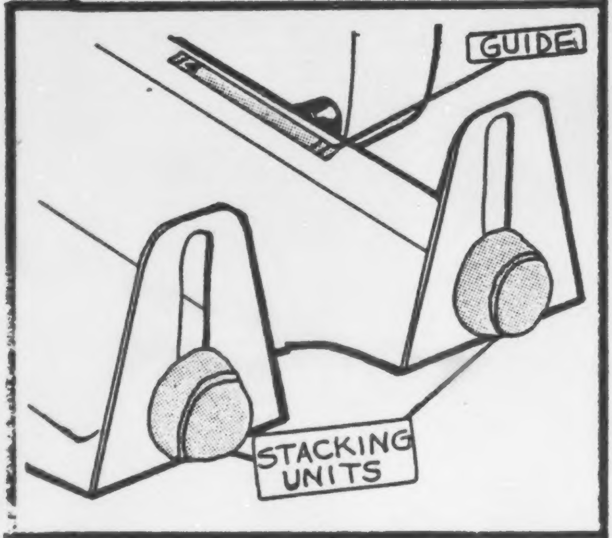
JOB STEPS

H. LOADING FEED TRAY. PLACE PAPER (ANY AMOUNT TO 500 SHEETS OF 20# OR EQUIVALENT) BETWEEN GUIDES. DON'T BIND STACK PRESSING ON EITHER SLIDING GUIDE LOWERS TRAY. NOW PUSH PAPER UNDER FEED ROLLS, AGAINST HOOK PINS. A FEED TRAY EXTENSION PULLS OUT TO ACCOMMODATE 14 INCH LONG PAPER. AUTOMATIC FEEDING PAPER - USE BOTH BOOK PINS. CARDS - USE SINGLE HOOK PIN; OTHER HOOK PIN TO ONE SIDE.

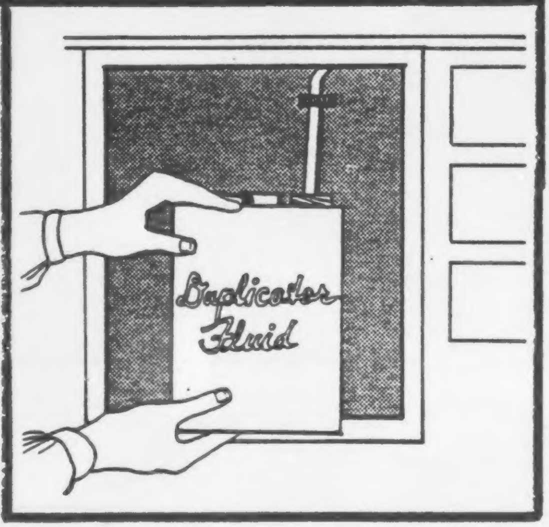


I. TO ADJUST FEED WEIGHT CONTROL. CENTER FOR MOST STOCKS. IF MORE THAN ONE SHEET FEEDS AT A TIME, MOVE TOWARD "LIGHT". IF SHEET FAILS TO FEED, MOVE TOWARD "HEAVY".

J. RECIEVING TRAY. FOR LENGTH OF PAPER, SET NUMBER ON TRAY OPPOSITE NYLON GUIDE (ARROW). THE BLACK NYLON STACKING UNITS AUTOMATICALLY RISE AS THE COPY SHEETS SLIDE BENEATH THEM TO FORM A NEAT STACK, REGARDLESS OF STOCK SIZE OR WEIGHT.



K. FLUID SYSTEM (MODEL ADG). FLUID IS PUMPED DIRECTLY FROM GALLON SHIPPING CONTAINER STORED ON SHELF BEHIND LEFT DOOR OF CABINET. WITH SPOUT (CAP REMOVED) TOWARD CABINET, DIP STICK SLIDES IN AS YOU LIFT CONTAINER AND PUSH IT BACK TO STOP ON SHELF. TO REMOVE, LIFT CONTAINER, PULL FORWARD, THEN DOWN. CAUTION: TO AVOID DRIPPING, RUN MOTOR WHILE REPLACING CONTAINER.



WORD GUIDE

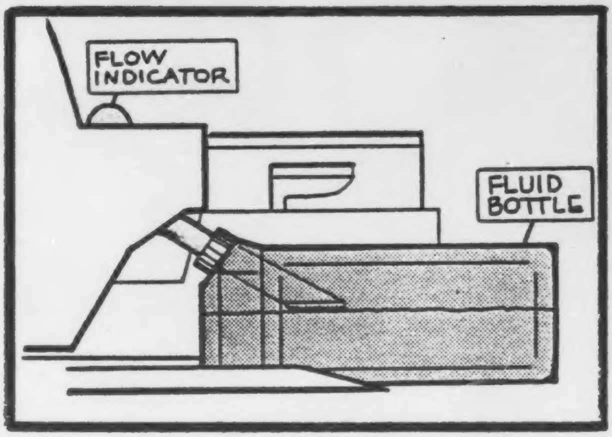
EXHAUSTED - USED UP.

ELONGATED - LONGER THAN USUAL, STRETCHED OUT.

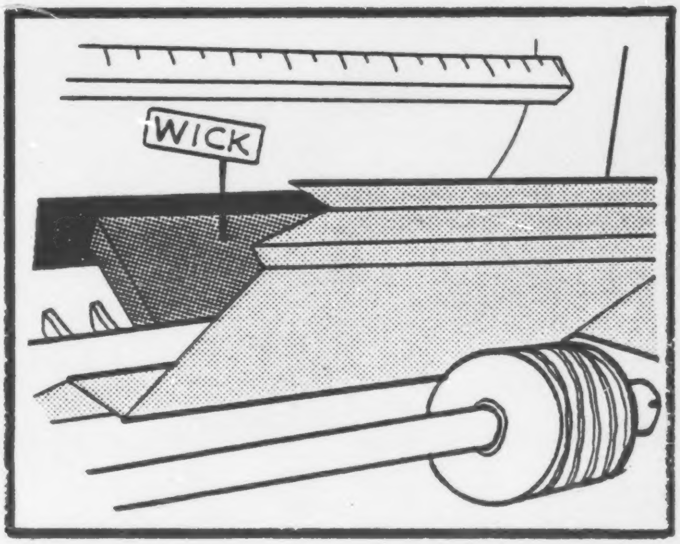
SIMULTANEOUSLY - AT THE SAME TIME.

JOB STEPS

L. FLOW INDICATOR. NOTE - BALL IN GLASS DOME FLOATS WHEN PUMP IS PROVIDING PROPER FLUID FLOW. BUBBLES OF AIR APPEAR IN DOME WHEN FLUID IS EXHAUSTED.



M. FLUID SYSTEM (MODEL ADE). PLACE BOTTLE ON ITS SIDE, CAP UP, IN TRAY REPLACE ORIGINAL CAP, USING THE ONE PROVIDED WITH ELONGATED HOLE. WHEN CAP IS TIGHTENED, ELONGATED HOLE SHOULD BE IN A VERTICAL POSITION. PUSH BOTTLE SLOWLY FORWARD UNTIL IT STOPS, WHICH SIMULTANEOUSLY GUIDES PUMP CYLINDER INTO BOTTLE. CAUTION: WHEN REMOVING BOTTLE, IN THIS CASE TO AVOID DRIPPING, TURN MACHINE OFF. PULL BOTTLE STRAIGHT BACK. (DON'T TILT UP). THIS MOTION LIFTS AND LATCHES PUMP CYLINDER IN RAISED POSITION READY FOR NEW BOTTLE.



N. WICK AND WICK TANK. CLEAN PAPER LINT FROM WICK REGULARLY TO AVOID STREAKY COPIES. TO INSPECT WICK, LIFT COVER BY HANDLE. FOR LONGER LIFE, TURN WICK OCCASIONALLY TO A NEW EDGE. WHEN POOR COPIES RESULT, EVEN AFTER CLEANING AND TURNING, REPLACE WICK. MAKE SURE WICK RESTS SQUARELY ON METAL INSERT IN WICK TANK. THIS INSERT ALSO CATCHES LINT AND SHOULD BE REMOVED AND CLEANED OCCASIONALLY.

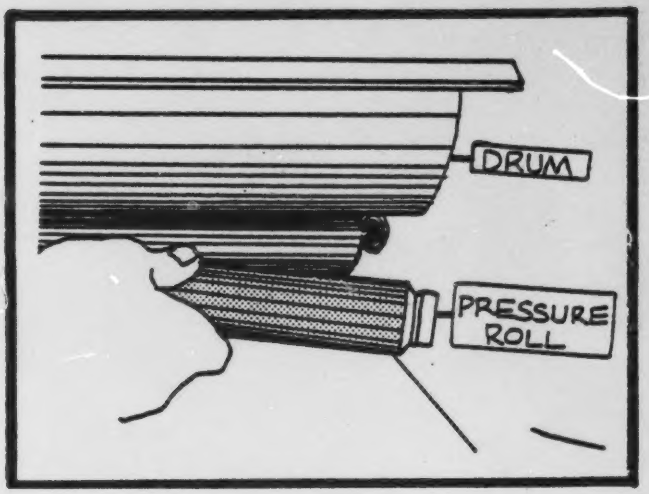
WORD GUIDE

REINSTALL - PUT BACK IN.

ASSEMBLED - PUT TOGETHER.

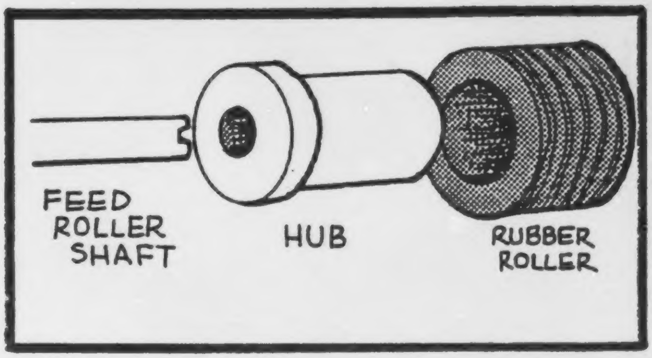
JOB STEPS

O. CLEANING PRESSURE ROLL AND DRUM. WHEN PRESSURE KNOB IS TURNED TO OFF, THE PRESSURE ROLL MAY BE LIFTED OUT. FOR EASIEST REMOVAL, PULL FROM AN OFF-CENTER POSITION. REVERSE PROCEDURE TO REINSTALL (NOTE ILLUSTRATION). ROLL MAY NOW BE CLEANED: USE CLOTH MOISTENED WITH DUPLICATING FLUID. DRUM MAY BE EASILY CLEANED AT THE SAME TIME. DEPRESS "MULTIPLE" SIDE OF BUTTERFLY LEVER, THEN ROTATE BY HAND AS YOU CLEAN.

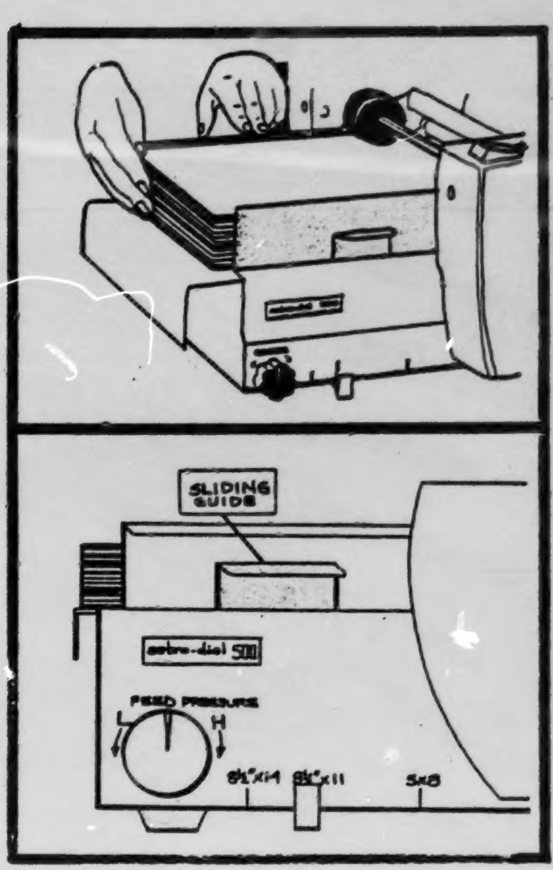


NOTE: EXTRA TOUGH DIRT MAY BE REMOVED WITH "BLANKET WASH" OR "ROGERSOL RUBBER REJUVINATOR". (ALL STRONG CLEANERS WILL DRY YOUR HANDS OUT; AFTER USING THESE, IT IS WISE TO PUT ON HAND CREAM TO REPLACE THE NATURAL OILS IN YOUR SKIN).

P. CHANGING FEED ROLLS. BEFORE CHANGING, TRY CLEANING ROLLS TO REMOVE PAPER LINT. WRAP SCOTCH TAPE AROUND ROLL. PULLING OFF TAPE LIFTS LINT. TO REPLACE ROLLS, REMOVE FEED ROLLER SHAFT SLIDE OFF ASSEMBLED SETS AND SEPARATE PLASTIC ROLLERS FROM FEED ROLLS. PEEL OFF RUBBER ROLLS FROM HUBS. STRETCH ON NEW ONES. REASSEMBLE SETS AS SHOWN. THE FOUR PLASTIC ROLLERS AND TWO HUBS ARE INTERCHANGEABLE. NO SPECIAL ORDER OF REPLACEMENT IS NECESSARY.



JOB STEPS



4. NOW THAT YOU HAVE READ THE OPERATING INSTRUCTIONS, PRACTICE FEEDING PAPER, WITH NO MASTER ON.

5. PLACE THE 8 1/2" X 11" 20# SCRAP PAPER IN THE FEEDER (THE MACHINE SHOULD ALWAYS BE LEFT FOR THIS STANDARD SIZE PAPER). SET THE COUNTER AND RUN 100 SHEETS WITH THE "MULTIPLE" OPERATING LEVER ON. PRACTICE FEEDING SINGLE SHEETS.

6. SET THE MACHINE TO FEED 5 1/2" X 8 1/2" 20# SCRAP PAPER AND PRACTICE RUNNING WITH BOTH MULTIPLE AND SINGLE LEVERS.

7. NOW YOU ARE READY TO "PRINT" ON THE SPIRIT DUPLICATOR, BUT FIRST, PREPARE AN ORIGINAL MASTER ("DITTO BRAND" MASTER). READ THE FOLLOWING:

> DITTO MASTERSET MAKES TYPING A MASTER EASIER AND CLEANER. WITH MASTERSET YOU NEED NEVER TOUCH THE CARBONIZED SHEET. IT'S FOLDED INSIDE, PROTECTING YOUR HANDS. AND THERE'S NO NEED FOR BUYING MASTER PAPER AND CARBON PAPER SEPARATELY. MASTERSET PROVIDES BOTH IN ONE UNIT-READY FOR IMMEDIATE USE. NO SEARCHING FOR MASTER SHEET, NO ALIGNMENT OF CARBON PAPER. MASTERSET OBVIOUSLY SPEEDS TYPING.

WORD GUIDE

VARIATIONS - DIFFERENCES, CHANGES.

JOB STEPS

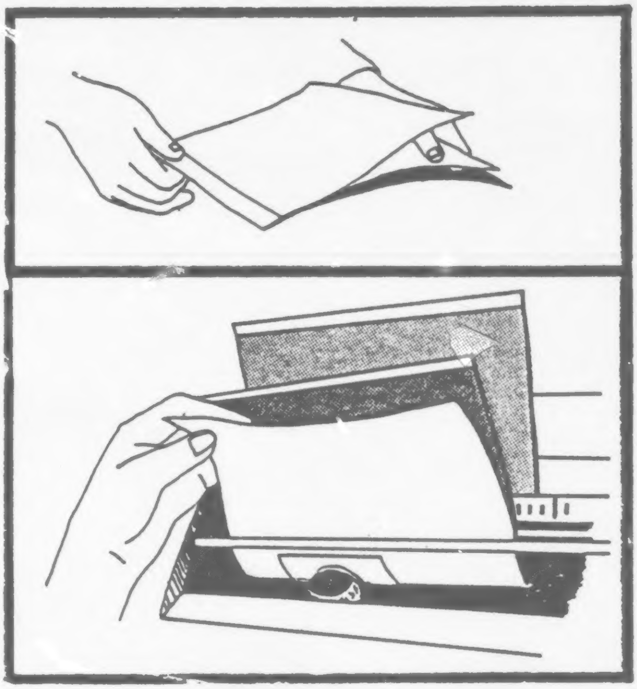
HOW TO TYPE DIRECT PROCESS (SPIRIT) MASTERS ON DITTO MASTERSET:

A. USE TYPEWRITER IN GOOD MECHANICAL CONDITION. A MACHINE WITH MEDIUM HARD PLATEN ROLLER IS BEST.

B. SEE THAT TYPE FACES ARE CLEAN. USE DITTO TYPE AND PLATEN CLEANER.

C. USE A PLASTIC OR FIBER BACKING SHEET FOR BETTER RESULTS, IF PLATEN IS NOT SUITED TO PREPARATION OF MASTER.

D. REMOVE TISSUE. INSERT MASTERSET INTO TYPEWRITER SO THAT THE KEYS STRIKE THE PLAIN, UNCARBONIZED SHEET OF THE MASTERSET. THIS MAKES A CARBON DEPOSIT IN REVERSE ON BACK OF THE MASTER SHEET ON WHICH YOU TYPE.



E. EITHER THE OPEN END OR THE CLOSED END OF THE MASTERSET MAY BE INSERTED FIRST INTO THE TYPEWRITER. IF THE OPEN END IS INSERTED FIRST, CORRECTIONS WILL BE EASIER TO MAKE WHILE THE MASTERSET IS IN THE TYPEWRITER, SINCE THE SHEETS CAN BE SEPARATED WITHOUT HAVING TO TEAR THE CLOSED END.

F. YOU GET THE BEST MASTERS IF THE TYPIST USES A FIRM, EVEN TOUCH. VARIATIONS IN TOUCH WILL RESULT IN VARIATIONS IN THE QUALITY OF COPY PRODUCED.

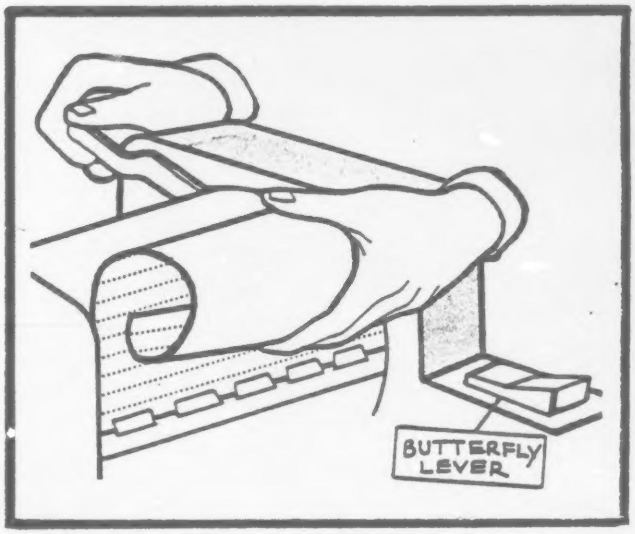
WORD GUIDE

DISCARD - THROW AWAY.

JOB STEPS

G. NOISELESS AND STANDARD TYPEWRITERS MAKE GOOD DITTO MASTERS. TYPEWRITERS HAVING "TOUCH CONTROL" SHOULD BE SET AT THE STROKE WHICH PROVIDES SHARP, EVEN CHARACTERS. THIS SETTING VARIES WITH THE OPERATOR'S TOUCH.

H. AFTER TYPING, REMOVE MASTERSET. TEAR OFF AND DISCARD CARBONIZED SHEET. PLACE THE MASTER ON THE DUPLICATOR WITH THE REVERSE CARBON IMPRESSION EXPOSED, AND RUN COPIES ACCORDING TO MACHINE OPERATING INSTRUCTIONS.



HOW TO OBTAIN THE GREATEST NUMBER OF COPIES:

1. THE NUMBER OF COPIES WHICH CAN BE MADE FROM A SINGLE MASTER WILL DEPEND ON A NUMBER OF DIFFERENT VARIABLES:

- THE GRADE OF CARBON
- THE CARE OF TYPING
- THE QUALITY OF THE DUPLICATING FLUID AND COPY PAPER
- THE OPERATION OF THE DUPLICATING MACHINE

2. TO OBTAIN GREATEST NUMBER OF COPIES FROM A SINGLE MASTER, START WITH PRESSURE SETTING OF LOW. RESET THE CONTROL TO HIGHER PRESSURE POSITIONS AS REQUIRED TO MAINTAIN BRIGHTNESS THROUGHOUT THE RUN.

3. MASTERS MAY BE USED OVER AND OVER UNTIL THE ENTIRE CARBON DEPOSIT HAS BEEN EXHAUSTED.

WORD GUIDE

INSUFFICIENT - TOO LITTLE; NOT ENOUGH.

FACILITATE - MAKE EASIER.

JOB STEPS

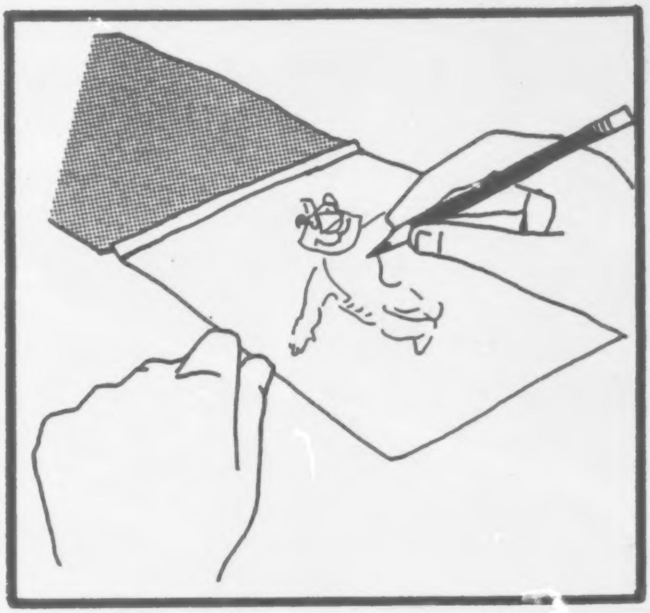
HOW TO DRAW A DIRECT PROCESS MASTER:

1. FOLD BACK CARBON FROM UNDER MASTER BEFORE SKETCHING OR DRAWING.

2. PENCIL PRELIMINARY SKETCH LIGHTLY ON MASTER SHEET ONLY.

3. AFTER DRAWING IS LAID OUT, FOLD CARBON BACK INTO PLACE, BACK IT UP WITH THREE SHEETS OF PLAIN PAPER, AND RETRACE DRAWING WITH A HARD (NO. 6H) PENCIL OR BALL POINT PEN. WORK ON HARD SURFACE; A GLASS OR METAL PLATE WILL GIVE BEST RESULTS.

4. CHECK MASTER OCCASIONALLY TO MAKE SURE ENOUGH PRESSURE IS BEING APPLIED. LIGHT OR BROKEN LINES INDICATE INSUFFICIENT PRESSURE.



HOW TO CORRECT A DIRECT PROCESS MASTER:

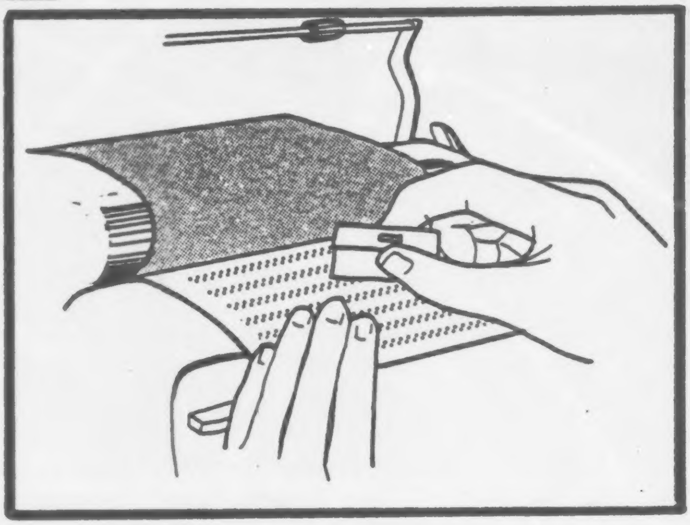
WHEN CORRECTING A DIRECT PROCESS MASTER, YOU WILL FIND IT IS NECESSARY TO CORRECT THE CARBON DEPOSIT ON THE REVERSE SIDE. IT IS ALSO DESIRABLE TO CORRECT THE IMAGE ON THE FRONT OF THE MASTER TO FACILITATE PROOF-READING.

THERE ARE SEVERAL METHODS OF CORRECTING MASTERS. HERE ARE TWO WHICH ARE WIDELY USED:

WORD GUIDE

ISOLATE - LOCATE, FIND, SET APART.

JOB STEPS



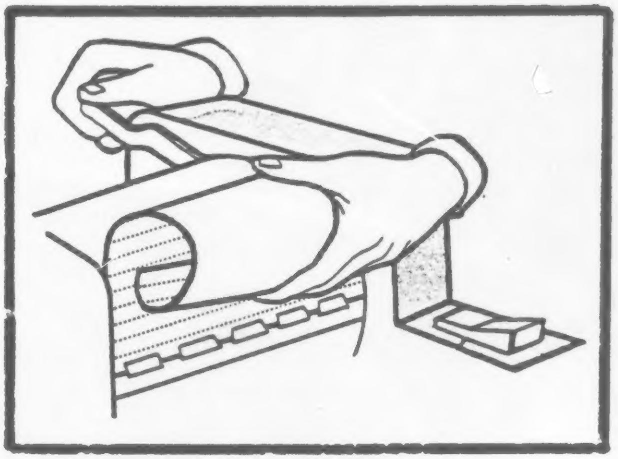
1. USING RAZOR BLADE AND SOFT ERASER: WITH A RAZOR BLADE OR RAZOR KNIFE, SCRAPE AWAY AS MUCH OF THE CARBON IMAGE AS YOU CAN, WITHOUT DAMAGING THE MASTER PAPER. REMOVE REMAINING CARBON WITH A SOFT ERASER. AN ERASER SHIELD MAY BE USED TO ISOLATE THE ERROR. TYPE IN CORRECTION (TO ASSURE BRIGHT REPRODUCTION, STRIKE IN THE CORRECTION, TWO OR THREE TIMES).

2. USING INK ERASER: USE ERASER SHIELD TO ISOLATE ERROR. RUB OUT ERROR WITH INK ERASER. A SLIGHT PURPLE SMUDGE WILL APPEAR, BUT WILL NOT REPRODUCE WHEN COPIES ARE RUN. FOLLOW ABOVE INSTRUCTIONS FOR TYPING IN CORRECTION WITH A FRESH PIECE OF CARBON.

8. GET A STANDARD DITTO MASTER (FROM BOX UNDER MACHINE IN CABINET, OR ASK THE INSTRUCTOR) AND PREPARE IT BY TYPING AT LEAST 3-4 LINES AND DRAWING A PICTURE ON IT.

9. FILL IN AN 8 1/2" X 11" SHEET, LEAVING AT LEAST 1/2" MARGIN ON ALL 4 SIDES. BE SURE TO INCLUDE YOUR NAME AND TODAY'S DATE. (YOU MAY ELECT TO USE COLORED MASTERS LIKE RED, GREEN, LIGHT BLUE OR BLACK TO PRODUCE AN ATTRACTIVE, MULTI-COLORED PRINT). SHOW YOUR LAYOUT TO THE INSTRUCTOR AND HE WILL GET YOU THE COLORED MASTERS.

JOB STEPS



10. PLACE THIS MASTER ON THE SPIRIT DUPLICATOR AND RUN OFF A DOZEN COPIES ON CLEAN, WHITE 20# 8 1/2" X 11" DUPLICATING PAPER WHICH BELONGS TO OUR GRAPHICS CLASS (GET THIS PAPER WHEN YOU GET YOUR DITTO MASTER BE SURE TO PROPERLY CLEAN THE AREA WHEN YOU ARE FINISHED.

11. CUT ONLY A SMALL 4" X 5" SAMPLE FROM THE MASTER YOU HAVE JUST RUN (CARBON, TISSUE AND MASTER) AND TAPE THESE THREE PIECES TOGETHER ON A SAMPLE OF THE JOB YOU HAVE JUST PRINTED (INCLUDE MOD NUMBER AND TITLE). KEEP THESE IN YOUR NOTEBOOK.

12. AGAIN, DOUBLE-CHECK YOUR AREA TO BE SURE YOU HAVE TAKEN CARE OF EVERYTHING; DISCARD YOUR SCRAP, TURN OFF MACHINE AND REPLACE USED SCRAP PAPER IN CABINET.

YOU CAN NOW RUN A SPIRIT DUPLICATOR.

graphics

unit: SPECIAL PROCESSES

capital area career center

1401 15 008

module: 1401 15 008 3 date: 8/77 level:

skill title: OPERATING A MIMEOGRAPH STENCIL DUPLICATOR

developed & written by: GLEN PETTIT

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO PREPARE A MIMEOGRAPH STENCIL DUPLICATOR FOR OPERATION, INK, INSERT STENCIL, SET FEED AND DELIVERY, POSITION AND THEN PRINT.

AND IN ORDER TO DO THIS YOU WILL NEED:

A GESTETNER MIMEOGRAPH STENCIL DUPLICATOR

8 1/2" X 11" SCRAP PAPER

PREPARED STENCIL

WE WILL KNOW THAT YOU CAN DO IT WHEN:

1. YOU CAN RUN ANY BASIC MIMEOGRAPH STENCIL DUPLICATOR AND SET-UP AND PRODUCE ANY POSSIBLE JOB FOR THE MACHINES.
2. YOU CAN RECOGNIZE AND PRODUCE QUALITY WORK AND DO NORMAL MAINTENANCE REQUIRED.

(TOTAL TIME FOR MOD: 1/2 HOUR).

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

POROUS - OPEN TO PASSAGE OF AIR OR LIQUIDS, ETC.

INFORMATION

MIME MEANS TO MIMIC OR IMITATE; GRAPH MEANS WRITING. A MIMEOGRAPH IS A PROCESS OF PRINTING (OR DUPLICATING) THAT WILL MASS-REPRODUCE WHAT IS ON THE ORIGINAL STENCIL.

A THIN STENCIL IS PLACED IN POSITION ON A CYLINDER. THE IMAGE (USUALLY MADE ON A TYPEWRITER) LEAVES AN OPENING IN THE SOFT GELATIN WHERE THE LIQUID INK INSIDE THE POROUS CYLINDER CAN SQUEEZE THROUGH. THE PAPER CONTACTS THE STENCIL AND THE INK GOES THROUGH THE STENCIL, REPRODUCING THE DESIRED IMAGE. THE STENCIL MUST BE PLACED ON THE MACHINE SO THE IMAGE IS BACKWARDS.

AS COMPARED TO A SPIRIT DUPLICATOR, THIS PROCESS IS MORE EXPENSIVE. STENCILS COST ABOUT 15¢ EACH AND A TUBE OF BLACK INK WILL COST $6.50, WHICH IS GOOD FOR ABOUT 20,000 PRINTS. A GESTETNER STENCIL DUPLICATOR COSTS ABOUT $650.00. OTHER NEW MODELS RANGE FROM $400.00 TO $800.00. GOOD, USED MODELS RUN $150.00 TO $350.00. MIMEOGRAPH PAPER IS ABOUT $3.00 PER REAM, DEPENDING ON THE QUANTITY ORDERED.

JOB STEPS

1. TAKE ALL YOUR EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

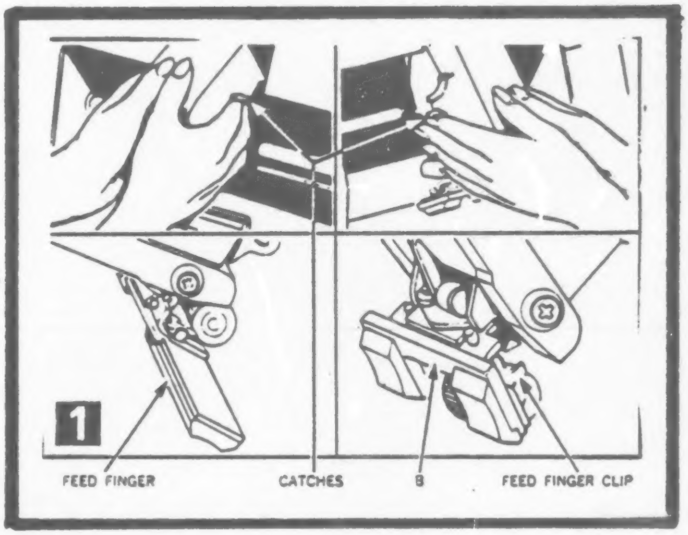
2. FEEDING SHORT PAPER AND CARDS (5" - 7 1/2" IN LENGTH):

NOTE: IF PAPER IS 6 1/2" OR WIDER, PROCEED WITH STEPS 3 IN THE ILLUSTRATIONS. IF PAPER IS NARROWER THAN 6 1/2", PROCEED AS FOLLOWS:

A. RAISE LEFT HAND AND RIGHT HAND FEED UNIT CATCHES AND LIFT FEED UNIT AS HIGH AS POSSIBLE.

B. THEN, KEEPING THE CATCHES RAISED, LOWER FEED UNIT UNTIL RIGHT HAND CATCH HOLDS FEED UNIT IN RAISED POSITION.

C. PRESS FEED FINGER CLIP INWARDS AND REMOVE FEED FINGER BY PULLING DOWNWARDS.



D. INSERT STUDS OF SMALL FEED FINGER INTO SLOTS OF FEED BRACKET, BRIDGE "B" UPWARDS; AND PRESS FULLY UPWARDS.

E. RAISE RIGHT HAND CATCH AND LOWER FEED UNIT. ENSURE THAT CATCHES CLIP OVER MAINSHAFT BY PRESSING FEED UNIT AGAINST MAINSHAFT. PROCEED WITH STEPS 2 AND 3 IN THE ILLUSTRATIONS.

NOTE: THE REMOVED FEED FINGER CAN BE STORED IN A HOLDER BEHIND INKER DOOR.

WORD GUIDE

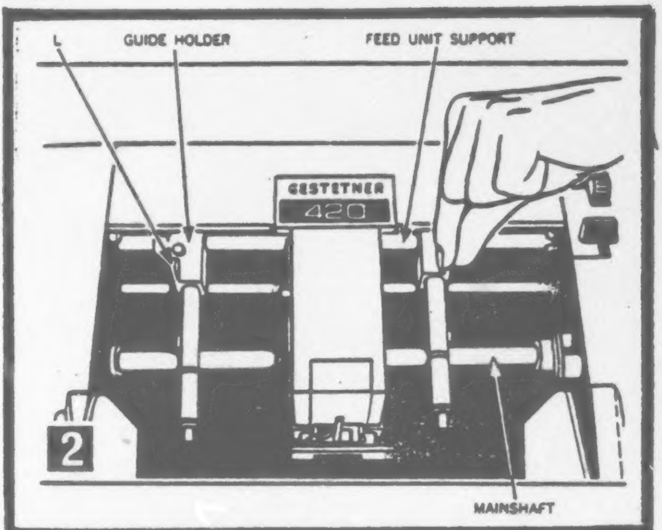
ENGAGING - CATCHING, SETTING.

COUNTER-CLOCKWISE - TO THE LEFT.

CLOCKWISE - TO THE RIGHT.

JOB STEPS

FITTING SMALL PAPER GUIDES: FIT SMALL PAPER GUIDES TO MACHINE WITH LUGS "L" NEAREST TO SIDE FRAMES BY ENGAGING GROOVE AT TOP OF HOLDERS WITH FEED UNIT SUPPORT AND PRESSING FULLY INWARDS TO ENGAGE MAINSHAFT.


L
GUIDE HOLDER
FEED UNIT SUPPORT
GESTETNER
420
2
MAINSHAFT

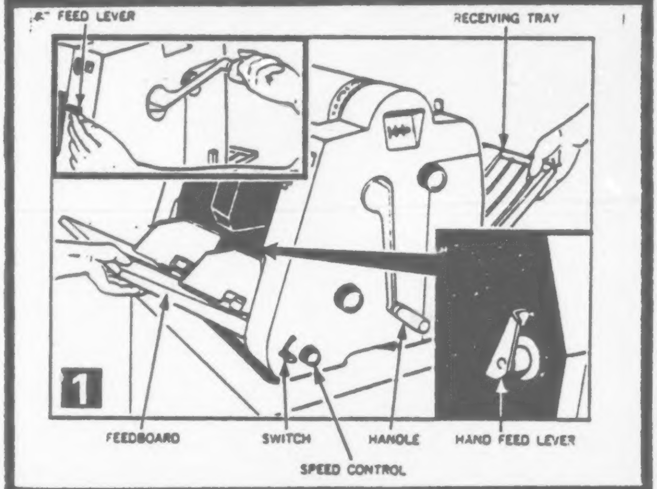
3. HOW TO OPERATE YOUR GESTETNER STENCIL DUPLICATOR:

A. CHECK THAT SWITCH IS FULLY LOWERED IN ITS "OFF" POSITION AND SPEED CONTROL IS TURNED FULLY COUNTER-CLOCKWISE.

B. CONNECT POWER PLUG TO ELECTRICAL OUTLET. TURN HANDLE OUTWARDS. LOWER FEEDBOARD AND RECEIVING TRAY.

C. CHECK THAT FEED LEVER IS RAISED AND TURN HANDLE CLOCKWISE TO ENSURE FEED MECHANISM IS NOT OPERATING.

D. CHECK TO BE SURE THAT THE HAND FEED LEVER IS RAISED.

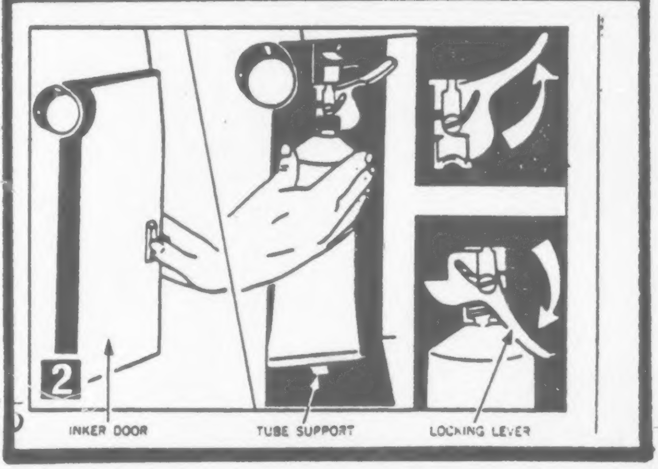

FEED LEVER
RECEIVING TRAY
1
FEEDBOARD
SWITCH
HANDLE
HAND FEED LEVER
SPEED CONTROL

4. INKING MACHINE:

A. OPEN INKER DOOR.

B. RAISE TUBE LOCKING LEVER.

C. HOLD INK TUBE BY THE SHOULDER NEAR TOP AND REMOVE CAP.


2
INKER DOOR
TUBE SUPPORT
LOCKING LEVER

WORD GUIDE

CRIMPED - PINCHED OR PRESSED IN.

UNIFORM - THE SAME, ALIKE.

SHEEN - GLAZE, SHINE.

JOB STEPS

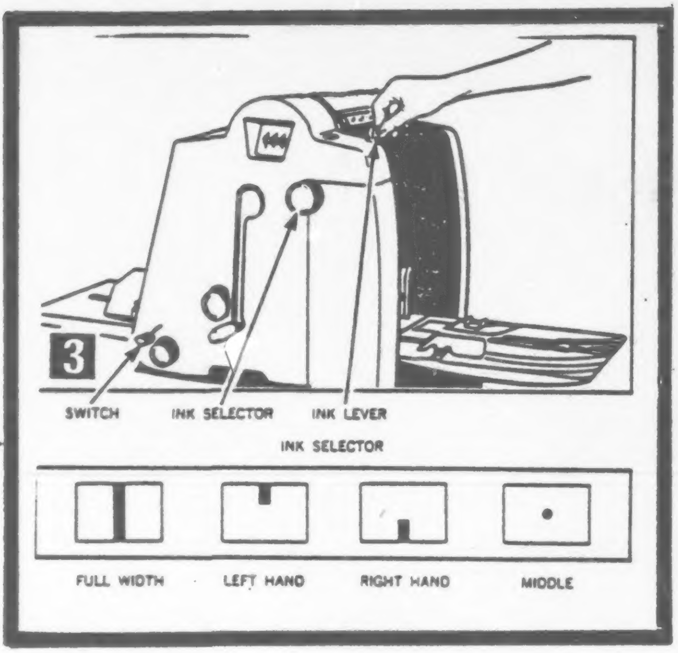
D. PLACE CRIMPED END IN TUBE SUPPORT AND INSERT TUBE NOZZLE INTO TUBE HOLDER.

E. THEN, PUSH TUBE LOCKING LEVER FULLY DOWNWARDS. CLOSE INKER DOOR.

F. TURN INK SELECTOR TO FULL-WIDTH INKING POSITION - THIS IS SHOWN BY A BLUE LINE APPEARING ON TOP OF INK SELECTOR.

G. START MACHINE BY RAISING THE SWITCH.

H. APPLY INK BY MOVING INK LEVER FULLY BACKWARDS AND FORWARDS WITH A SLOW, STEADY ACTION UNTIL A UNIFORM, THIN FILM OF INK CAN BE SEEN AS A SLIGHT SHEEN ON THE SURFACE OF THE SILK SCREEN.



I. SWITCH OFF MACHINE BY PUSHING SWITCH.

INK SELECTOR:

NOTE: THE INK SELECTOR ENABLES THE MACHINE TO BE INKED IN FOUR DIFFERENT POSITIONS ACROSS THE WIDTH OF THE STENCIL. INK CAN BE APPLIED TO FULL WIDTH, LEFT HAND SIDE, RIGHT HAND SIDE AND MIDDLE OF A STENCIL BY MEANS OF THE INK SELECTOR. THE INK POSITION IN USE IS SHOWN BY THE MARKING WHICH APPEARS ON TOP OF THE INK SELECTOR.

WORD GUIDE

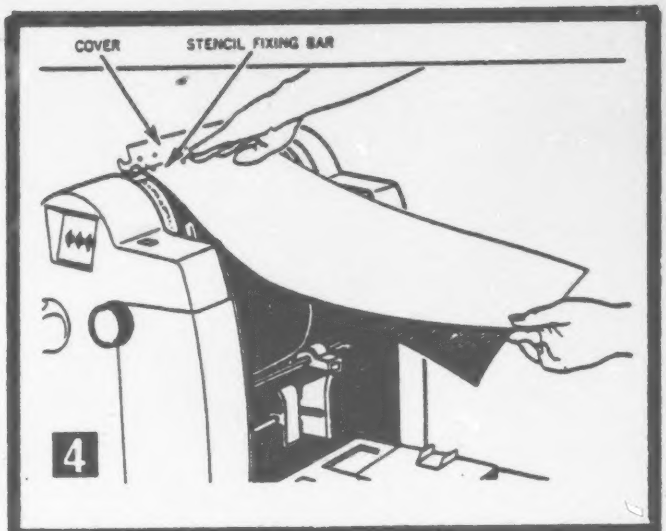
CREASED - FOLDED.

JOB STEPS

5. FITTING STENCIL:

A. TURN HANDLE CLOCKWISE UNTIL STENCIL FIXING BAR IS AT TOP OF MACHINE.

B. LIFT UP STENCIL FIXING BAR COVER UNTIL IT LOCKS IN RAISED POSITION.

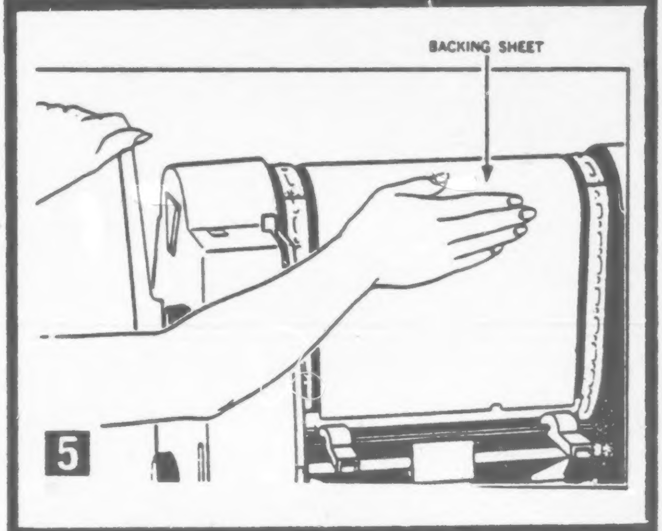


4

C. FASTEN STENCIL WITH TYPED SIDE TOWARDS SILK SCREEN, MAKING SURE THAT HOLES IN STENCIL HEADING FIT TIGHTLY OVER STUDS OF FIXING BAR.

D. CLOSE FIXING BAR COVER.

E. PUT RIGHT HAND LIGHTLY ON BACKING SHEET, TURN HANDLE SLOWLY CLOCKWISE AND MAINTAIN CONTINUAL PRESSURE OVER FULL LENGTH OF BACKING SHEET UNTIL THE HANDLE IS IN ITS TOP POSITION.

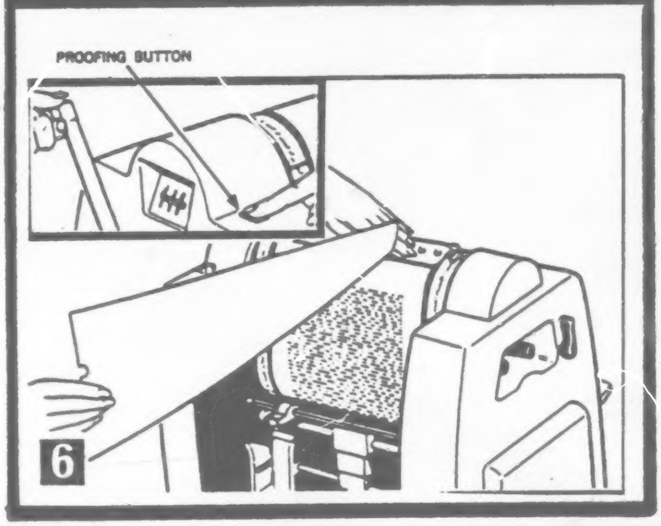


5

F. TURN BACK BACKING SHEET. IF STENCIL IS CREASED, RE-LAY IT BY HAND.

G. TURN HANDLE CLOCKWISE TO ITS BOTTOM POSITION.

H. PUSH PROOFING BUTTON, TURN HANDLE SLOWLY ONE COMPLETE TURN CLOCKWISE AND RELEASE PROOFING BUTTON.



6

I. TURN HANDLE TO ITS TOP POSITION, TURN BACK BACKING SHEET AND CHECK THAT THE COPY IS EVENLY INKED. IF NECESSARY, REPEAT THE OPERATION.

WORD GUIDE

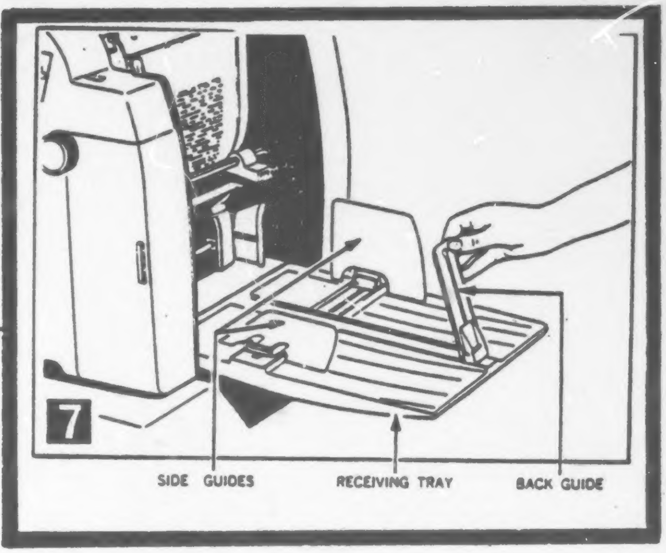
PERFORATED - PARTIALLY CUT.

JOB STEPS

J. WHEN THE COPY IS EVENLY INKED, HOLD THE BOTTOM EDGE OF BACKING SHEET, RAISE IT SLIGHTLY OUTWARDS AND TURN THE HANDLE COUNTER-CLOCKWISE TO ITS BOTTOM POSITION. REMOVE BACKING SHEET BY TEARING IT OFF ALONG PERFORATED LINE.

6. PREPARING RECEIVING TRAY FEEDBOARD:

A. RAISE BACK AND SIDE GUIDES OF RECEIVING TRAY AND MOVE THEM FULLY OUTWARDS.

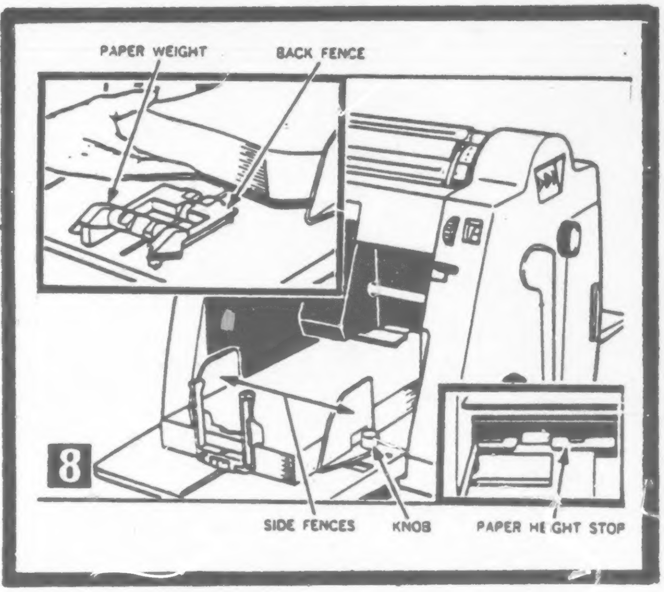


B. SLACKEN SIDE FENCE KNOBS AND MOVE SIDE FENCES FULLY OUTWARDS. PULL BACK FENCE FULLY TO REAR OF FEEDBOARD.

C. FAN OUT PAPER AND SQUARE IT UP TO ORIGINAL STATE.

D. THEN PLACE ON FEEDBOARD FULLY FORWARD; USE FEED-BOARD SCALES TO POSITION STACK IN RELATION TO SUBJECT MATTER ON STENCIL.

NOTE: NEVER PLACE MORE PAPER ON FEEDBOARD THAN WILL FIT EASILY UNDER PAPER HEIGHT STOP.



E. MOVE SIDE FENCES TO REST LIGHTLY AGAINST PAPER STACK. TIGHTEN SIDE FENCE KNOBS.

F. RAISE BACK FENCE AND SLIDE IT TOWARDS PAPER STACK UNTIL IT ALMOST TOUCHES STACK AND REST PAPER WEIGHT ON PAPER.

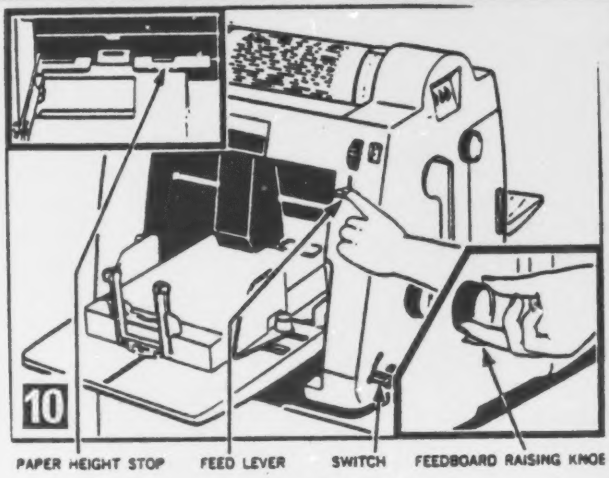
NOTE: FOR QUICK RELOADING, RAISE PAPER WEIGHT TO TOP POSITION AND LAY BACK FENCE HORIZONTAL TO FEEDBOARD.

JOB STEPS

7. SETTING FEED UNIT: CHECK POSITON OF FEED PRESSURE LEVER. FOR NORMAL USE, IT SHOULD BE AT TOP OF SLOT "+". IF LIGHTWEIGHT PAPER IS TO BE FED, MOVE FEED PRESSURE LEVER TO BOTTOM OF SLOT "-".

8. POSITIONING COPY:

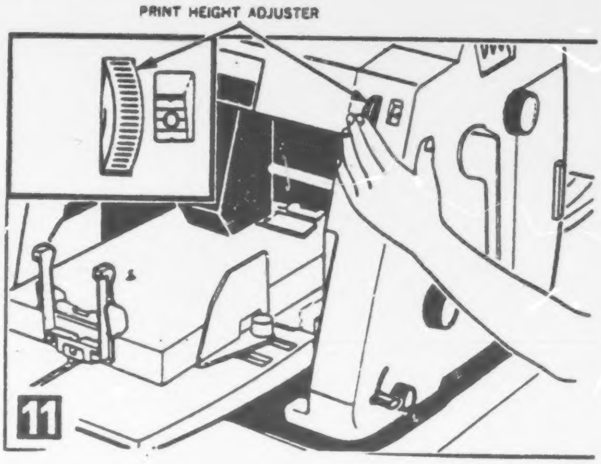
A. EXAMINE COPY FOR CORRECT POSITION. TURN PRINT HEIGHT ADJUSTER UPWARDS TO RAISE AND DOWNWARDS TO LOWER COPY.


10
PAPER HEIGHT STOP
FEED LEVER
SWITCH
FEEDBOARD RAISING KNOB

B. USING THE SCALES AS A GUIDE, ADJUST THE SIDE MARGINS BY MOVING PAPER STACK ACROSS FEEDBOARD.

9. PRINTING FIRST COPY:

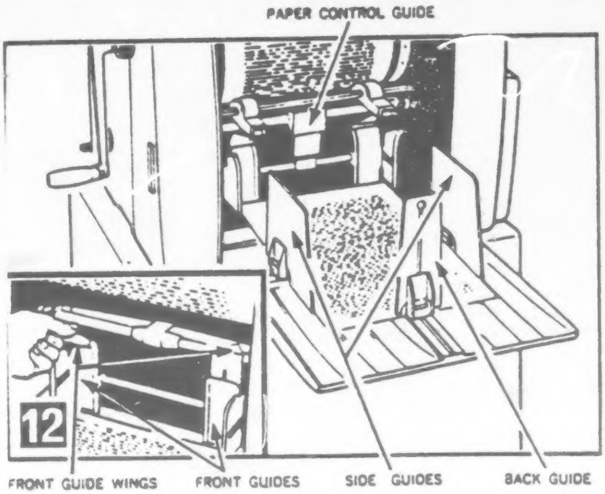
A. RAISE FEEDBOARD BY TURNING FEEDBOARD RAISING KNOB UNTIL PAPER STACK CONTACTS PAPER HEIGHT STOP. THE RAISING KNOB IS THEN AUTOMATICALLY DISENGAGED.


PRINT HEIGHT ADJUSTER
11

B. PUSH FEED LEVER, SLOWLY TURN HANDLE CLOCKWISE AND, AS SOON AS FEED MECHANISM BEGINS TO OPERATE, RAISE FEED LEVER WHILE COMPLETING CLOCKWISE TURN OF HANDLE.

10. SETTING RECEIVING TRAY:

A. SET RECEIVING TRAY BY LAYING EDGE OF PRINTED COPY AGAINST FRONT GUIDES.


PAPER CONTROL GUIDE
12
FRONT GUIDE WINGS
FRONT GUIDES
SIDE GUIDES
BACK GUIDE

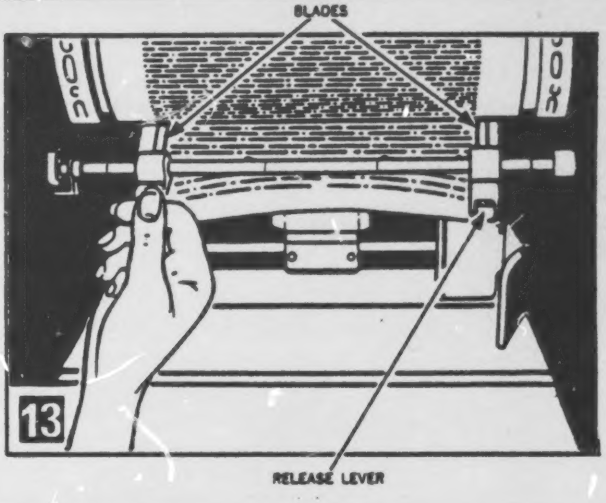
B. MOVE FRONT AND SIDE GUIDES TO TOUCH SIDES OF COPY.

JOB STEPS

C. MOVE BACK GUIDE TO TOUCH EDGE OF COPY. IF DELIVERY CONTROL UNIT AND PAPER CONTROL GUIDE ARE TO BE USED, LOWER FRONT GUIDE WINGS.

11. SETTING DELIVERY CONTROL UNIT:

A. PUSH FEED LEVER, SLOWLY TURN HANDLE CLOCKWISE AND AS SOON AS FEED MECHANISM BEGINS TO OPERATE, RAISE FEED LEVER. STOP TURNING HANDLE WHEN SHEET OF PAPER REACHES DELIVERY CONTROL BLADES.

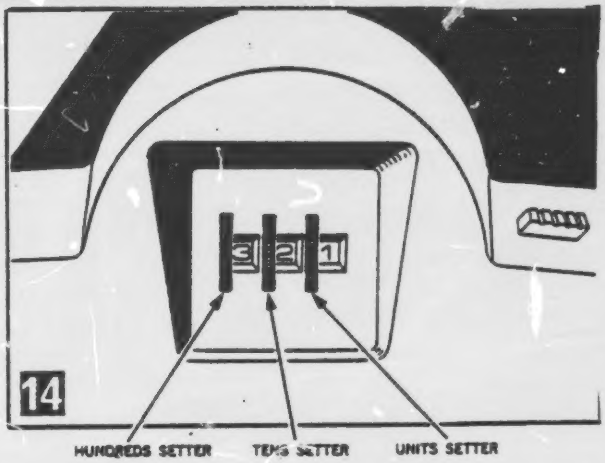

BLADES
13
RELEASE LEVER

B. THEN, PUSH RELEASE LEVERS AND POSITION BLADES UNTIL THEY ARE SLIGHTLY INSIDE THE EDGES OF THE PAPER.

C. CONTINUE FEEDING SHEET OF PAPER.

12. SETTING QUICK-SET COUNTER:

A. TURN "HUNDREDS", "TENS", AND "UNIT" SETTERS TO THE NUMBER OF COPIES REQUIRED.

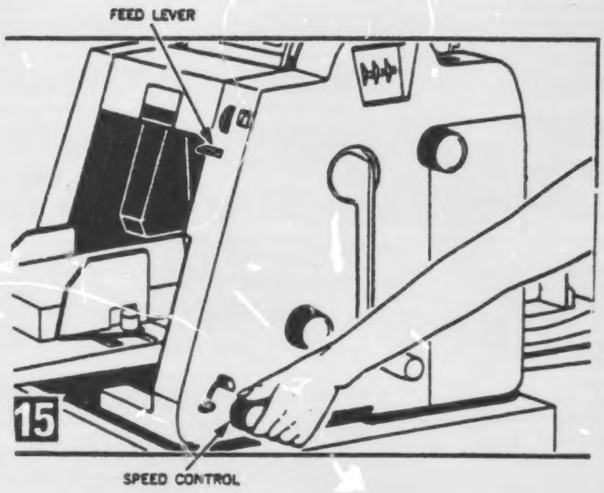

3 2 1
14
HUNDREDS SETTER
TENS SETTER
UNITS SETTER

EXAMPLE - ILLUSTRATION SHOWS COUNTER SET FOR 321 COPIES.

B. WHEN REQUIRED NUMBER OF COPIES HAVE BEEN PRINTED, THE COUNTER REGISTERS "0" AND AUTOMATICALLY STOPS FEED MECHANISM.

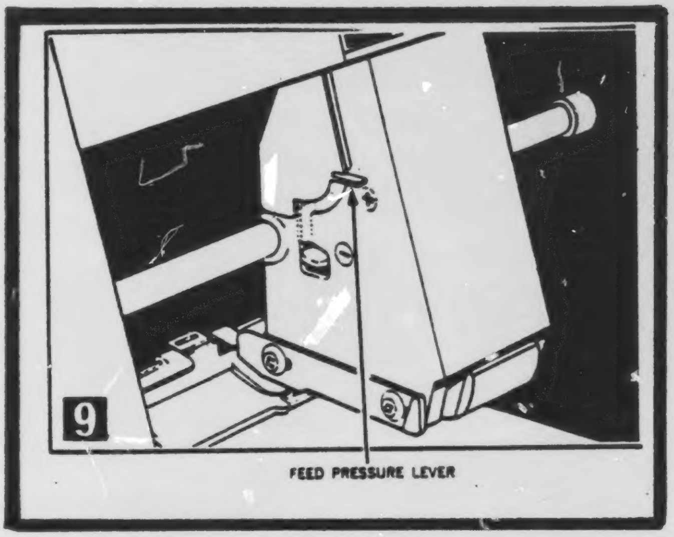
13. PRINTING COPIES:

A. SWITCH ON MACHINE. TURN SPEED CONTROL CLOCKWISE FOR FAST OR COUNTER-CLOCKWISE FOR SLOW.


FEED LEVER
15
SPEED CONTROL

JOB STEPS

B. PUSH FEED LEVER TO BEGIN PRINTING. TO STOP MACHINE, WHILE PRINTING, RAISE FEED LEVER.



NOTE: TO INCREASE DENSITY OF COPY, DECREASE SPEED. COPY DENSITY CANNOT BE INCREASED BY OVER-INKING THE MACHINE. ONLY A THIN FILM OF INK IS NEEDED ON THE CYLINDERS.

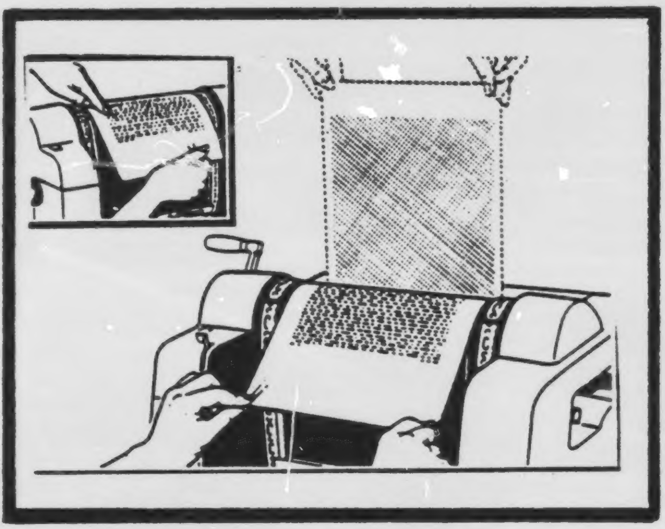
C. WHEN PAPER ON FEEDBOARD IS ALMOST USED UP, THE FEED MECHANISM STOPS AND THE FEEDBOARD DROPS TO ITS BOTTOM POSITION. THEN, REMOVE COPIES FROM RECEIVING TRAY.

D. RE-LOAD AND RAISE FEEDBOARD, PUSH FEED LEVER AND CONTINUE PRINTING.

14. RE-RUNNING USED STENCILS:

A. INK MACHINE, AND ATTACH STENCIL AS IN STEP 4 IN ILLUSTRATION ON PAGE 8 (SEE "FITTING STENCIL").

B. TURN HANDLE UNTIL STENCIL FIXING BAR IS IN LINE WITH FEED MECHANISM.



C. GRIP BOTTOM OF STENCIL, HOLD IT UPRIGHT AND THEN LAY IT EVENLY ON SILK SCREEN OVER ITS ENTIRE LENGTH.

D. REMOVE ANY CREASES BY LIFTING BOTTOM OF STENCIL WITH RIGHT HAND AND RE-LAYING STENCIL SLOWLY ON SILK SCREEN.

WORD GUIDE

CONTACT - TOUCH.

SLACKEN - LOOSEN.

JOB STEPS

E. TURN HANDLE A LITTLE AT A TIME AND STRETCH OUT ANY CREASES WITH FINGER OF LEFT HAND.

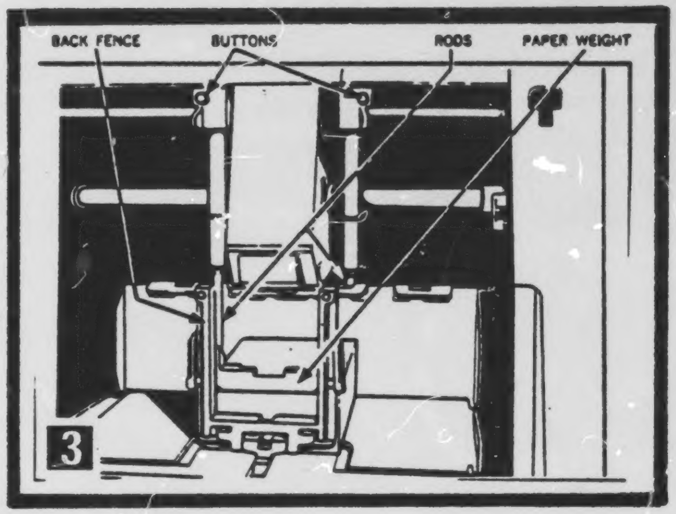
NOTE: DO NOT PUSH PROOFING BUTTON.

F. PLACE PAPERS TO BE FED IN CENTER OF FEEDBOARD, FULLY FORWARD.

G. PRESS GUIDE BUTTON INWARDS TO RELEASE GUIDE RODS.

H. SLIDE GUIDES TOWARDS STACK SO THAT GUIDE RODS LIGHTLY CONTACT THE SIDES OF PAPER.

I. MOVE BACK FENCE AND LOWER PAPER WEIGHT.


BACK FENCE
BUTTONS
RODS
PAPER WEIGHT
3

15. CLOSING MACHINE:

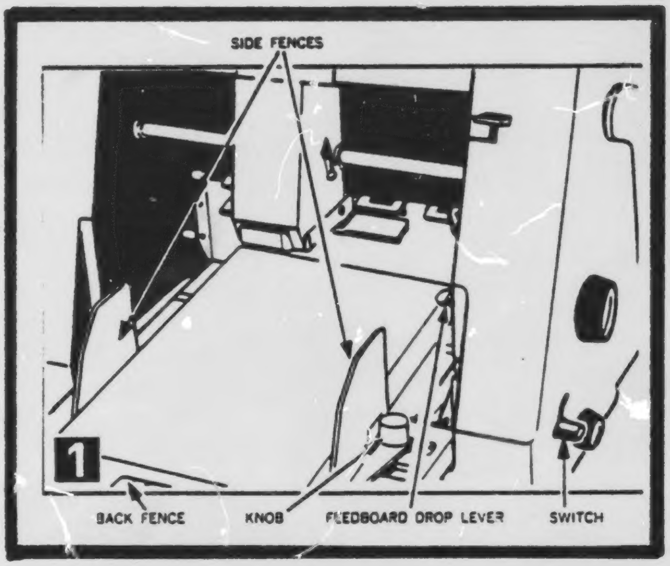
A. PUSH SWITCH AND DISCONNECT POWER PLUG FROM ELECTRICAL OUTLET.

B. PUSH FEEDBOARD DROP LEVER UNTIL FEEDBOARD IS FULLY LOWERED, AND THEN REMOVE PAPER.

C. SLIDE BACK FENCE FULLY FORWARD, BELOW FEED UNIT, LOWER PAPER WEIGHT AND THEN LAY BACK FENCE BACKWARDS, HORIZONTAL TO FEEDBOARD.

D. SLACKEN SIDE FENCE KNOBS AND MOVE SIDE FENCES SLIGHTLY INWARDS.

E. TURN HANDLE CLOCKWISE UNTIL STENCIL FIXING BAR IS AT TOP OF MACHINE.


SIDE FENCES
1
BACK FENCE
KNOB
FEEDBOARD DROP LEVER
SWITCH

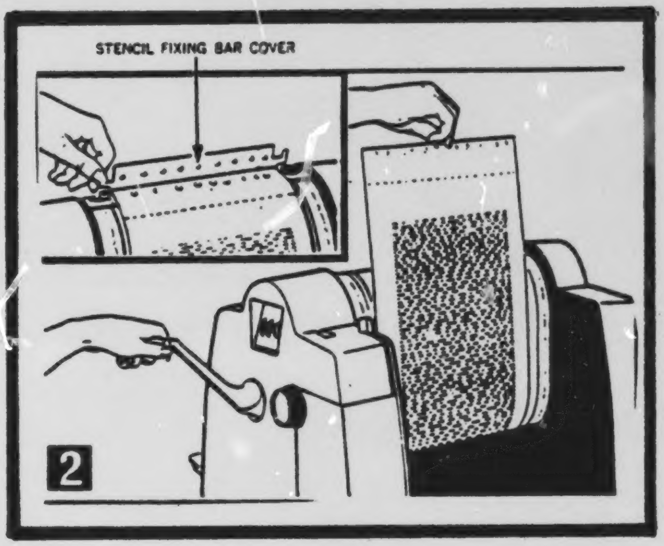
JOB STEPS

F. LIFT UP STENCIL FIXING BAR COVER, DETACH STENCIL HEADING FROM STUDS AND RELEASE COVER.

G. TURN HANDLE CLOCKWISE AND REMOVE STENCIL.

H. TURN HANDLE TO ITS BOTTOM POSITION AND FOLD INWARDS.

I. REMOVE ANY PAPERS FROM RECEIVING TRAY, FOLD BACK AND SIDE GUIDES INWARDS AND CLOSE UP RECEIVING TRAY AND FEEDBOARD.



graphics

unit: SPECIAL PROCESSES

capital area career center

1401 15 009

module: 1401 15 009 3 **date:** 11/77 **level:**

skill title: CPERATING AN ELECTROSTATIC COPIER

developed & written by: GLEN PETTIT

visuals by:

WORD GUIDE

DISPERSANT - SOMETHING WHICH SCATTERS OR SPREADS SOMETHING ELSE

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN HOW TO:

1. MAKE AN ELECTROSTATIC PHOTOCOPY FROM SINGLE SHEETS OR BOUND BOOKS ON ANY COLOR PAPER.
2. ADJUST EXPOSURE, SET THE LENGTH OF COPY AND SET THE QUANTITY DIAL.
3. LOAD PAPER, LOAD TONER, ADD DISPERSANT AND CLEAR PAPER JAMS.

AND IN ORDER TO DO THIS YOU WILL NEED:

A SAVIN 230 ELECTROSTATIC PHOTOCOPY MACHINE.

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN QUICKLY PRODUCE CLEAN AND READABLE COPIES ON THE ELECTROSTATIC COPIER.
2. YOU CAN REPRODUCE ANY PAPER COLOR, BOOK OR SHEET.
3. YOU CAN CHANGE PHOTO PAPER, TONER AND DISPERSANT AND CAN CORRECT ANY MINOR PAPER JAM.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

NEUTRALIZE - REMOVE ANY CHARGE FROM, MAKE NEUTRAL

FUSED - CLOSELY ATTACHED TO

ABSORB - TAKE IN, SUCK-IN

INFORMATION

ELECTROSTATIC COPIERS OPERATE ON VERY SIMPLE PRINCIPLE: "OPPOSITE CHARGES ATTRACT." A SPECIAL PHOTO PAPER IS GIVEN A POSITIVE CHARGE AND THEN EXPOSED TO A BRIGHT LIGHT REFLECTING FROM THE COPY. THE ELECTRONS FROM THE LIGHT NEUTRALIZE THE CHARGED PHOTO PAPER, EXCEPT WHERE THE LIGHT DID NOT NEUTRALIZE. A NEGATIVE CHARGED BLACK TONER IS ATTRACTED TO THE POSITIVE AREAS OF THE PHOTO PAPER, WHICH IS THE IMAGE AREA (NO LIGHT WAS REFLECTED FROM THE BLACK IMAGE AREA OF THE COPY). THIS TONER IS FUSED TO THE PHOTO AND YOU HAVE AN ELECTROSTATIC COPY IN SECONDS.

THERE ARE HUNDREDS OF COPIERS ON THE MARKET TODAY; SEARS HAS A SMALL HOME MODEL FOR UNDER $50 AND SOME MODELS CAN GO TO $20,000. MOST OFFICE COPIERS COST BETWEEN $1,000 AND $3,000. THE COST OF PHOTO PAPER, TONER AND CHEMICALS PER COPY IS ABOUT 2½¢ EACH 8½" X 11". THE SPECIAL LAMPS ARE ALSO VERY EXPENSIVE.

MOST LIBRARIES AND DEPARTMENT STORES HAVE COPIERS YOU CAN USE FOR 5-10¢ PER COPY. ANY COPY THAT CAN REFLECT AND ABSORB LIGHT (HAS CONTRAST) CAN BE COPIED. WEAK COPY ON DARK PAPER HAS VERY LITTLE CONTRAST AND COPIES POORLY. LARGE BOOKS CAN BE PLACED ON THE COPY CLASS AND ALSO BE COPIED (IF HELD FLAT).

SOMETIME DURING THE COURSE, YOU MAY BE ASKED TO MAKE COPIES, OR YOU MAY SEE ONE OF THE STAFF MAKING COPIES. TO GAIN PRODUCTION EXPERIENCE RUNNING THE COPIER, YOU SHOULD REPRODUCE SEVERAL DOZEN COPIES (5 TO 10 MINUTES).

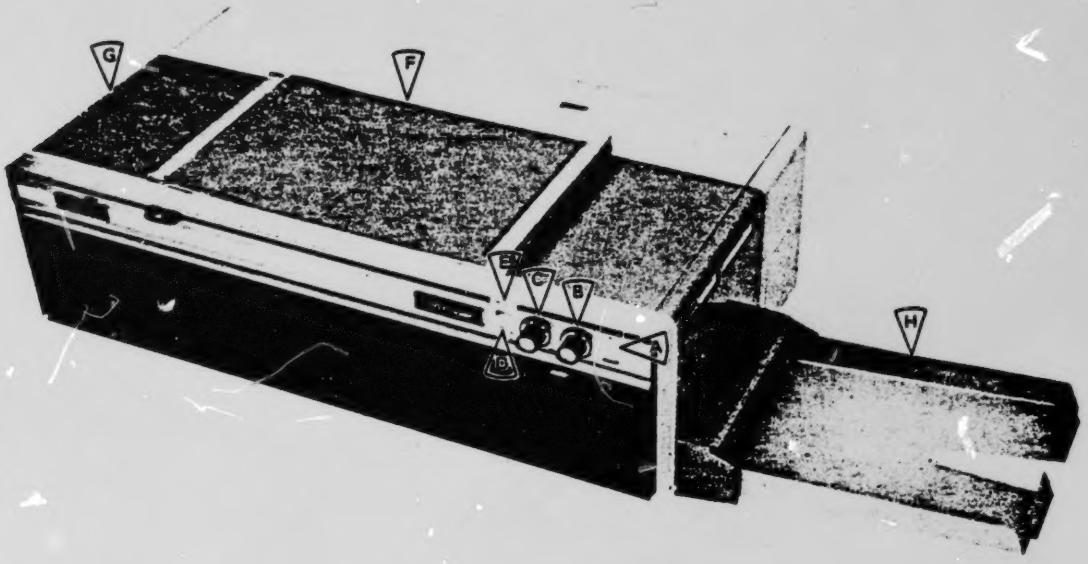
NOTE: WHEN YOU SEE SOMEONE CHANGING THE PHOTO PAPER, CHEMICALS OR UNJAMMING THE COPIER - WATCH CAREFULLY. IT IS NOT NECESSARY TO DO THESE YOURSELF.

FREQUENTLY, IT IS NECESSARY TO COPY A PASTE-UP FOR THE CUSTOMER (AVOID EVER SENDING THE ACTUAL PASTEUP) OR TO COPY ORIGINAL COMPOSITION WHEN DOING A LAYOUT DUMMY. BE SURE TO RECORD PHOTOCOPY PAPER USAGE IN THE LOG BOOK.

READ OVER THE INSTRUCTIONS ON THE NEXT 5 PAGES. THESE APPLY TO NEARLY ALL COPIERS. MANY SHOPS USE ELECTROSTATIC PLATEMAKERS (MOD 1401 12 009) AND ELECTRONIC SCANNERS (MOD 1401 12 012). MOST SHOPS HAVE COPIERS IN THEIR OFFICE OR COMPOSER ROOM.

INFORMATION

GUIDE TO COMPONENTS



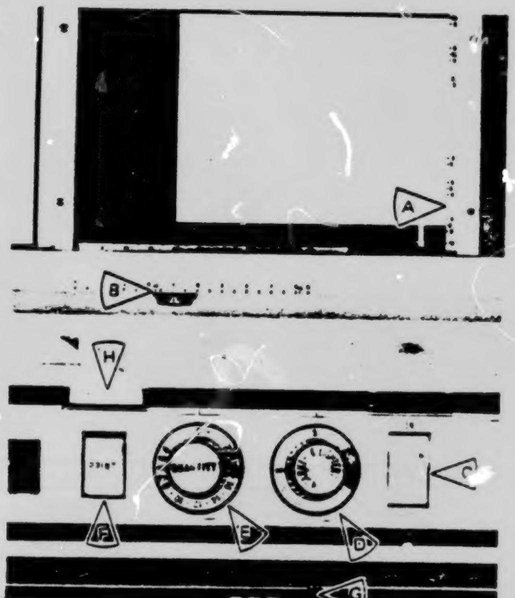
A	POWER SWITCH	E	RELOAD LIGHT
B	EXPOSURE DIAL	F	EXPOSURE GLASS COVER
C	QUANTITY DIAL	G	PAPER COMPARTMENT
D	PRINT BUTTON	H	RECEIVING TRAY

TO MAKE COPIES

1. Raise the flexible cover on top of the copier, and position the original (face down) on the exposure glass. Use the scale (A) on the right side of the glass to center your copy.

   Place the original on the glass so that the maximum width of the copy paper is used. For example, when copy paper 8-1/2" wide is in the unit, a 5-1/2" x 8-1/2" originals should be centered on the glass with the 8-1/2" edge against the scale. The copy will be made more quickly as the scanner has to travel only 5-1/2".
2. Slide the copy length control (B) to set the red indicator at the length of copy required.

   Note: The copy length control can also be used advantageously to provide an automatic cut-off when it is desirable to delete a portion of an original from the copy.
3. Lower the cover over the original.
4. Turn the copier power switch (C) on.
5. Set the exposure dial (D). The normal setting for a black-on-white original is "5." Turn the dial to a lower number to darken copy and to a higher number to lighten copy. Originals printed on colored paper may require a higher setting.
6. Set the quantity dial (E) for the number of copies desired and press the print button (F).



INFORMATION

MULTIPLE COPYING

For single copies, set the dial at "1."

For multiple copies, set the dial at the number of copies needed. If after pressing the print button, fewer copies are needed, turn the dial to "1." The copy in process will be produced plus one additional copy. If more copies are needed after pressing the print button, turn the dial to the correct number and again press the print button. After making multiple copies, return the quantity dial to "1."

When a large number of copies is needed, set the dial at "CONT." Depress the button (G) alongside the counter on the front panel to set it at "000." After a sufficient number of copies is received, turn the quantity dial to "1."

When the reload light (H) goes on, the original may be removed and a new one loaded:

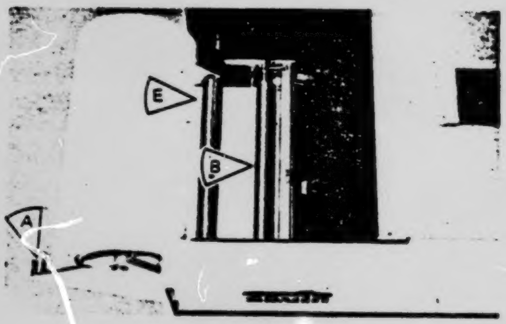
Note: The receiving tray (I) can be folded out of the way when not in use.

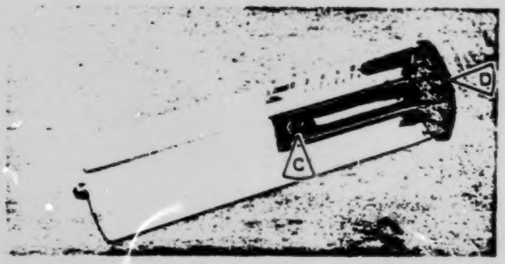
TO LOAD PAPER

When a red line appears on the copy, only a few feet are left on the roll and a new roll must be loaded.

1. Raise the hinged lid on the left end of the copier.
2. Pull the paper support bracket (A) away from the copier to permit easy access to the paper roll spindle.
3. Rotate the roll to release the paper from under the feed roller (B).
4. Lift the spindle out of the bracket, and remove the paper roll core or partially used paper roll from the shaft.

   Note: Store partially used rolls of paper on end in the black plastic bags in which they were received.
5. If changing to a different width paper, loosen the screw (C) on the paper guide (D). Set the guide at the width of paper to be used, and tighten the screw.
6. Insert open end of spindle into roll of paper and push paper roll and core firmly against guide. **The paper must come off the roll in a counterclockwise direction as viewed from the operator's side.**
7. Replace paper roll spindle in support bracket (with guide at the rear of the machine). Feed paper under the large metal roller (E) until the lead edge is just under the feed roller. Turn roller one-half turn to correctly position paper.
8. Raise paper support bracket to operating position, and lower the lid.





WORD GUIDE

TONER - AS USED IN ELECTROSTATIC COPIERS; IS THE COLOR OR PIGMENT THAT IS ACTUALLY READ, IT IS THE READABLE IMAGE THAT IS FUSED (MELTED) INTO THE PHOTO PAPER.

INFORMATION

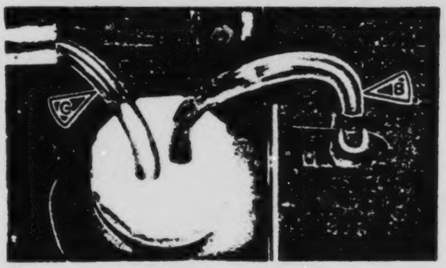
TO LOAD TONER CONCENTRATE AND DISPERSANT

TONER CONCENTRATE

Each time a new carton of dispersant is opened, the toner bottle must be changed.

Caution: Always handle the bottle by cap, neck, or upper edge to prevent spillage. Shake toner bottle well.

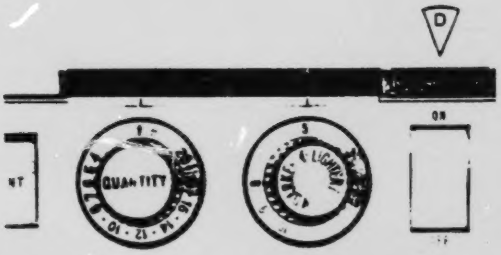
1. Open small door on right-hand end of copier near the receiving tray.
2. Disconnect hoses (B) and (C), and discard the old bottle of toner even if some toner remains in the bottle.
3. Remove the cap from the new toner bottle, and cut opening in metal seal. Insert the metal weight on the plastic tubing (A) into the bottle.
4. Tighten cap securely, and cut the tubing at the center.
5. Insert the toner concentrate bottle as far as possible into the bracket, with the hoses facing outward.
6. Slide the unmarked hose securely over the metal tube to the right of the bottle (B).
7. Insert the hose with the red marking into the air vent to the left of the bottle (C).
8. Close the door.

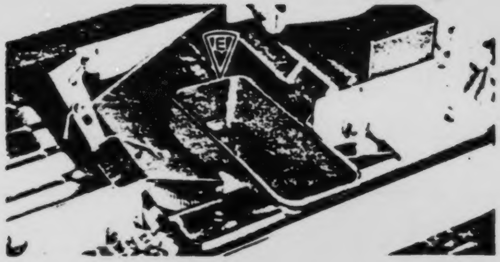


DISPERSANT

When the red light (D) on the control panel goes on, additional dispersant is needed.

1. Turn the power switch off, and pull open the front panel below the control panel.
2. Pour one quart of dispersant into the funnel (E) on the side of the trough. Close the panel.





WORD GUIDE

SCANNER - THIS SYSTME EXPOSES THE COPY (READS), LIGHT IS REFLECTED FROM THE BACKGROUND (NON9IMAGE) AND IS TRANSFERRED TO THE SENSITIZED PHOTO PAPER. THE LIGHT CAUSES THE PHOTO PAPER TO LOSE ITS CHARGE. THE (-) CHARGED TONER WILL ONLY STICK TO THE (+) CHARED AREAS OF THE PHOTO PAPER NOW.

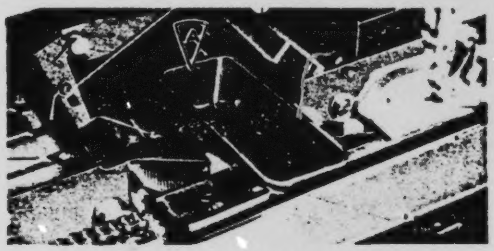
INFORMATION

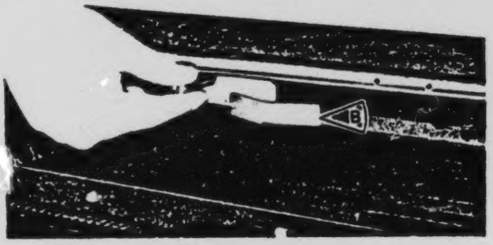
TO CLEAR PAPER JAMS

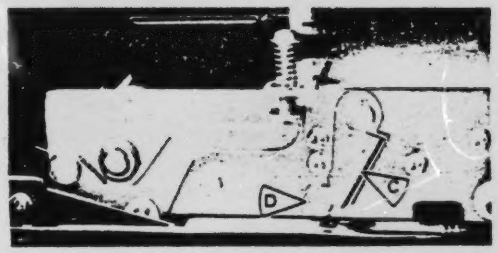
Always turn the power switch off when clearing paper from the copier. Copy paper may jam either in the paper feeding section or in the squeegee rollers.

SQUEEGEE ROLLERS

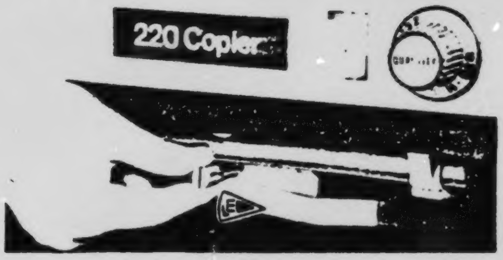
1. Remove the receiving tray. If a copy is partially in the receiving tray and partially in the roller system, remove the copy.
2. Open the front panel and remove any loose papers in the machine. Remove the trough and funnel assembly (A) by pushing the trough to the rear and lifting it up and out of the copier.
   Note: Care should be taken in setting the trough down, as the fluid on the bottom of the trough may stain some surfaces.
3. If possible, remove the jammed paper from the squeegee roller system. If the paper is wound around the rollers, it is necessary to remove the squeegee assembly.
   a. Slide the scanner (B) to the left to allow access to the squeegee assembly.
   b. Move the locking latch (C) to the right and pull assembly forward; then raise the assembly off the stud (D) and slide it out of the machine.
   c. Remove the paper.

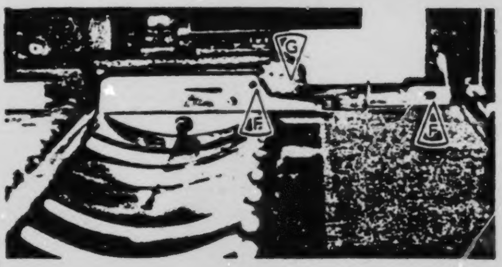






4. Replace the squeegee assembly by sliding it into the copier, guiding the rear right corner of the assembly along the right-hand side cover. Locate the studs at the rear of the machine into the holes (F) in the rear side frame of the assembly. If pins (G) on gear at back of machine are in line, turn roller on the squeegee assembly so pins do not line up. The cut-out on the front side frame fits into the slotted stud on the support plate. Lock the latch into the slotted stud.
5. Insert the trough and funnel assembly into the machine, locating the studs at front and rear of the machine into the holes in the trough side frames.
6. Slide the scanner (E) to its extreme right position.
7. Close the front panel, and replace the receiving tray.





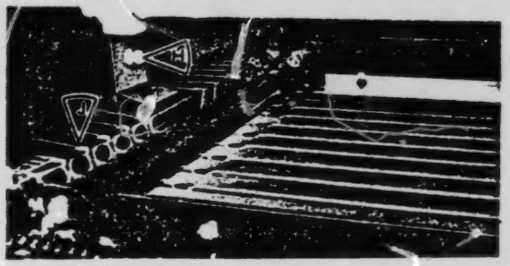
TO CLEAR PAPER JAMS (cont.)

PAPER FEEDING SYSTEM

1. Raise the hinged lid covering the paper roll.
2. Lower the paper support bracket and locate the area of the jam.
3. If the jam occurred before the paper was cut, cut the paper from the roll evenly.
4. Turn on the machine and press the print button. Turn the machine off when the paper leaves the feed roller. If the paper is accessible at this point, remove it from the machine.
5. If the paper has passed through the feed roller and is jammed under the corona assembly, open the front panel.. Remove the corona pressure plate (H) by pulling out the button securing the plate.
   This releases the corona (J) so that it may be raised. Carefully remove any paper caught under the corona:
   Caution: Move the corona assembly with care. Raise it only as needed to remove paper. Hold the corona in position and replace the pressure plate. Push in the botton to snap it securely in place.
6. Make certain the lead edge of the paper is cut evenly and thread it into the feed roller squarely. Paper fed into the feed roller at an angle may cause the paper to jam.

WORD GUIDE

CORONA - "THE DISCHARGE OF ELECTRICITY WHICH APPEARS NEAR THE SURFACE OF A CONDUCTOR UNDER HIGH VOLTAGE". ALSO CALLED THE "BOAS WIRE", IS THE WIRE THAT ACTUALLY CHARGES THE PHOTO PAPER OR MAKES IT SENSITIVE TO THE EXPOSURE UNIT LIGHT.



OPERATING TIPS

A. COPIER DOES NOT RUN
   1. Copier unplugged.
      a. Plug in unit.
   2. Building wiring fuse blown.
      a. Have fuse replaced.

B. NO COPY DELIVERED
   1. No copy paper in copier.
      a. Load paper.
   2. Copy paper not inserted into feed rollers.
      a. Check to see that paper is loaded properly.
   3. Copy paper is jammed.
      a. Locate, and clear machine of paper.

C. WRINKLED PAPER
   1. Corona assembly out of position.
      a. Secure in correct position with pressure plate.
   2. Jam in dryer unit.
      a. Clear jam.
   3. Toner tough out of position.
      a. Check trough, and reposition if necessary.
   4. Copy paper loaded improperly.
      a. Check paper to see that it is properly loaded.

D. COPY TOO DARK
   1. Exposure dial improperly set.
      a. Turn dial to a higher number to lighten copy.

E. COPY TOO LIGHT
   1. Exposure dial improperly set.
      a. Turn dial to lower number to darken copy.
   2. Toner bottle is empty.
      a. Replace toner bottle.

F. DARK SPOTS ON COPY
   1. Exposure glass dirty.
      a. Wipe the plate with a damp cloth, following with a dry cloth.
   2. Exposure glass cover dirty.
      a. Clean underside of cover with a mild soap or detergent and water.

JOB STEPS

1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

2. AFTER HAVING READ ALL OF THE OPERATING INSTRUCTIONS ON PAGES 3-8 EXAMINE THE COPIER AND IDENTIFY ALL THE SYSTEMS:

   A. POWER SWITCH
   B. EXPOSURE DIAL
   C. QUANTITY CONTROL DIAL
   D. PRINT BUTTON
   E. PAPER RELOAD LIGHT
   F. PAPER COMPARTMENT
   G. COUNTER RESET BUTTON
   H. PAPER WIDTH SCALE
   I. COPY LENGTH CONTROL (CUT OFF)
   J. PAPER FEED ROLLER
   K. PAPER SUPPORT BRACKET
   L. TONER COMPARTMENT (DOOR)
   M. TONER CONCENTRATE (BOTTLE)
   M. DISPERSANT FUNNEL
   O. SQUEEGEE ASSEMBLY SYSTEM
   P. SCANNER ASSEMBLY SYSTEM
   Q. CORONA CHARGER SYSTEM
   R. DISPERSANT CARTON (UNDER)

3. PLACE A MAGAZINE PAGE ON THE COPIER (OR GOOD COPY), SET THE COPY LENGTH FOR 5½" MINIMUM AND MAKE THREE COPIES:

   A. ONE AT EXPOSURE #5
   B. ONE AT EXPOSURE #1 (DARK)
   C. ONE AT EXPOSURE #10 (LIGHT)

4. COMPARE THE RESULTS (ESPECIALLY NOTE THE FINE LINES OR LIGHT COPY ELEMENTS).

5. SUBMIT THIS MOD # CREDIT WHEN YOU HAVE COMPLETED STEPS 1, 2 AND 3 AND 4.

PREVIOUS MATERIALS TAKEN FROM "SAVIN 220 COPIER OPERATING INSTRUCTION MANUAL", PAGES 1 - 11

graphics

unit: PHOTOGRAPHY (CONTINUOUS TONE)

capital area career center

1401 16 001

module: 1401 16 001 3 **date:** 7/77 **level:** I

skill title: THE BASICS OF THE CAMERA, FILM, AND CHEMICAL PROCESSING

developed & written by: JERRY REIMER

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO IDENTIFY THE PARTS OF A CAMERA AND THE PARTS OF A FILM.
2. HOW TO PRODUCE A NEGATIVE.

AND IN ORDER TO DO THIS YOU WILL NEED:

A PENCIL OR A PEN

WE WILL KNOW YOU CAN DO THIS WHEN:

YOU CAN PASS THE POST TEST AFTER READING THIS MODULE WITH 100% CORRECT.

INFORMATION

THIS MODULE IS COMPOSED OF THREE SECTIONS: THE PRE-TEST, THE INFORMATION, AND THE POST TEST. TO SEE WHAT YOU KNOW, TAKE THE PRE-TEST. IF YOU ANSWER ALL THE QUESTIONS CORRECTLY, THEN YOU KNOW THE MATERIAL IN THIS MODULE WELL ENOUGH FOR YOU TO GO ON TO THE NEXT MODULE. IF, HOWEVER, YOU MISSED SOME OF THE QUESTIONS, READ THE INFORMATION AND THEN TAKE THE POST TEST. AFTER ANSWERING 100% CORRECTLY, GO ON TO THE NEXT MODULE.

PRE-TEST

WRITE ANSWERS ON SCRAP PAPER.

1. A CAMERA IS:

   A. A TYPE OF ANIMAL.
   B. A TYPE OF CAR.
   C. A LIGHT-TIGHT BOX.
   D. AN ENLARGER.

2. NAME FOUR PARTS OF A CAMERA:

   A. LENS, SHUTTER, VIEWFINDER, AND APERTURE.
   B. LENS, VALVE FIX, SHUTTER, TRANSAXLE.
   C. CANNUTON VALVE, THROW-OUT BEARING, IDLER VALVE, AND TRANSAXLE.
   D. FILM, EMULSION, BASE AND ANTI-CURL BACKING.

3. NAME FOUR LAYERS OF FILM:

   A. SUB-LAYER, MID-LAYER, UPPER LAYER, AND OZONE LAYER.
   B. PANCHROMATIC, ORTHOCHROMATIC, NON-CHROMATIC, AND ZOONIC LAYER.
   C. BASE, ANTI-CURL BACKING, EMULSION, AND PROTECTIVE LAYER.
   D. POSITIVE, PRINT, RETICULATION, AND SAFELIGHT LAYER.

4. THE PURPOSE OF THE LENS IS TO:

   A. INCREASE THE CENTER OF GRAVITY.
   B. INCREASE THE MASS.
   C. VIEW THE MOON.
   D. COLLECT THE LIGHT RAYS.

5. THE SHUTTER CONTROLS:

   A. THE AMOUNT OF DEVELOPMENT.
   B. THE LENGTH OF EXPOSURE.
   C. THE LATITUDE.
   D. ALL OF THE ABOVE.

6. THE ANTI-HALATION BACKING (OF THE FILM):

   A. KEEPS THE FILM FROM TURNING COLORS.
   B. PREVENTS THE LIGHT RAYS FROM BOUNCING OFF THE BACK OF THE FILM.
   C. ADDS DENSITY TO THE NEGATIVE.
   D. IS NOT PART OF THE FILM.

7. THE SPEED OF THE FILM REFERS TO:

   A. THE FILM'S SENSITIVITY TO LIGHT.
   B. THE SPEED OF ADVANCEMENT.
   C. HOW FAST IT CAN DO THE QUARTER MILE.
   D. HOW QUICKLY IT IS USED UP.

WORD GUIDE

OPAQUE - NOT SENSITIVE TO LIGHT; DOES NOT LET LIGHT PASS THROUGH.

8. WHY IS CELLULOSE ACETATE MOST OFTEN USED IN FILM?

   A. BECAUSE IT IS CHEAP.
   B. BECAUSE IT IS THICK.
   C. BECAUSE IT IS LIGHTWEIGHT, FLEXIBLE, OPAQUE AND STRONG.
   D. BECAUSE IT IS LIGHTWEIGHT. FLEXIBLE, TRANSPARENT AND STRONG.

9. WHAT PART OF THE EMULSION REACTS TO LIGHT?

   A. THE BASE.
   B. THE ANTI-HALATION BACKING.
   C. THE SILVER HALIDES.
   D. THE GELATIN.

10. F-NUMBERS REFER TO:

    A. THE SPEED OF THE FILM.
    B. THE VIEWFINDER.
    C. THE APERTURES.
    D. THE SHUTTER.

11. IN WHICH ORDER DO WE PROCESS BLACK AND WHITE FILM?

    A. DEVELOPER, STOP OR RINSE, AND FIX.
    B. FIX, DEVELOPER, STOP, AND GO.
    C. FIX, STOP, AND RINSE.
    D. RIGHT 23, LEFT 15, RIGHT 13.

12. WHICH SOLUTION REMOVES THE UNEXPOSED AND UNDEVELOPED SILVER HALIDES?

    A. DEVELOPER.
    B. STOP.
    C. FIX.
    D. DISINFECTANT.

WORD GUIDE

ALTERED - CHANGED.

ADJUSTABLE - CHANGEABLE.

CALIBRATED - SET UP IN EXACTLY THE RIGHT ORDER.

INFORMATION

PHOTOGRAPHY IS THE STUDY OF RECORDING IMAGES UPON LIGHT-SENSITIVE SURFACES. THE PURPOSE OF THIS MODULE IS TO GIVE YOU A BETTER IDEA HOW THIS HAPPENS AND WHAT IS INVOLVED. FIRST, WE MUST UNDERSTAND SOME IMPORTANT PARTS OF PHOTOGRAPHY: THE CAMERA, THE FILM, AND THE CHEMICAL PROCESSING.

THE CAMERA IS A LIGHT-TIGHT BOX WITH A HOLE AT ONE END AND FILM AT THE OTHER. THE HOLE ALLOWS LIGHT TO REACH THE FILM AND FORM AN IMAGE. REGARDLESS WHICH TYPE OF CAMERA USED, THE JOB IS ALWAYS THE SAME: GETTING LIGHT ONTO THE FILM TO FORM AN IMAGE.

THE FILM IS A PIECE OF LIGHT-SENSITIVE MATERIAL USED IN A CAMERA. WHEN LIGHT REACHES THE FILM, AN IMAGE IS FORMED. ALTHOUGH IT IS NOT VISIBLY ALTERED, THE FILM HAS RECORDED THE LIGHT. ONLY THROUGH CHEMICAL PROCESSING DOES THIS IMAGE BECOME VISIBLE. CHEMICAL PROCESSING IS THE REACTION OF THE FILM WITH CHEMICALS TO GET A NEGATIVE. "NEGATIVE" IS THE WORD FOR PROCESSED FILM.

THE CAMERA DESCRIBED ABOVE WILL WORK (AS YOU WILL FIND OUT WHEN USING A "PIN-HOLE" CAMERA), BUT MOST CAMERAS ARE MORE THAN JUST LIGHT-TIGHT BOXES WITH HOLES. FOR INSTANCE, THE "HOLE" IS REPLACED WITH A LENS. THE LENS COLLECTS THE LIGHT RAYS (WHICH ARE REFLECTED FROM AN OBJECT) AND REDIRECTS THESE RAYS ONTO THE FILM. THE LENS MAKES THE IMAGE ON THE FILM CLEARER AND SHARPER THAN A PIN-HOLE. IT ALSO MAKES THE IMAGE BRIGHTER BECAUSE IT ALLOWS MORE LIGHT TO ENTER THE CAMERA.

THE CAMERA ALSO HAS A SHUTTER. THE SHUTTER CONTROLS THE LENGTH OF TIME THAT LIGHT IS ALLOWED TO ENTER THE CAMERA. THE LENGTH OF TIME THE SHUTTER STAYS OPEN IS CALLED THE "SHUTTER SPEED". ON ADJUSTABLE CAMERAS, THE SHUTTER SPEED COULD BE AS FAST AS 1/2000TH OF A SECOND, OR AS LONG AS YOU WANT. THE SHUTTER IS LOCATED IN ONE OF TWO PLACES ON THE CAMERA. ONE IS IN THE LENS. THIS IS CALLED A "LEAF SHUTTER". ANOTHER PLACE FOR THE SHUTTER IS JUST IN FRONT OF THE FILM. THIS IS CALLED A "FOCAL-PLANE SHUTTER". THE LENS FOCUSES THE IMAGE ONTO A PLANE (WHICH IS THE FILM), HENCE THE NAME "FOCAL PLANE". BOTH SHUTTERS ARE OPENED AND CLOSED BY A SHUTTER RELEASE.

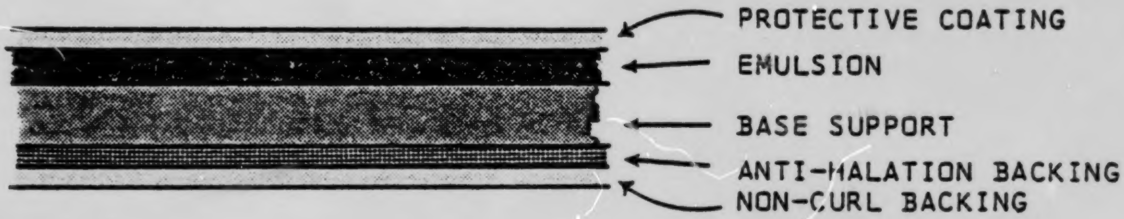
THE CAMERA APERTURE IS THE OPENING IN THE LENS WHICH ALLOWS THE LIGHT TO ENTER. THE SIZE OF THE APERTURE MAY BE FIXED OR ADJUSTABLE. LENS OPENINGS ARE USUALLY CALIBRATED IN "F-NUMBERS".

INFORMATION

TWO OTHER COMMON CAMERA PARTS ARE THE FILM ADVANCE LEVER AND THE VIEWFINDER. THE FILM ADVANCE LEVER ADVANCES THE FILM FOR THE NEXT EXPOSURE. THE VIEWFINDER TELLS YOU WHAT THE CAMERA "SEES". YOU LOOK THROUGH THE VIEWFINDER TO COMPOSE YOUR SCENE.

THE TRUE MIRACLE OF THE PHOTOGRAPHY IS THE FILM. THIS UNUSUAL MATERIAL IS COMPOSED OF FIVE LAYERS:

1. A BASE SUPPORT
2. AN EMULSION
3. A PROTECTIVE COVERING
4. A NON-CURL BACKING
5. AN ANTI-HALATION BACKING



THE BASE MUST DO TWO THINGS: IT MUST REMAIN UNAFFECTED BY THE SOLUTIONS USED IN PROCESSING AND MUST NOT AFFECT EITHER THE UNDEVELOPED OR DEVELOPED IMAGE. CELLULOSE ACETATE IS MOST OFTEN USED AS A BASE FOR FILM. THERE ARE FOUR REASONS WHY CELLULOSE ACETATE IS USED:

1. LIGHTWEIGHT
2. FLEXIBLE
3. TRANSPARENT
4. STRONG

WORD GUIDE

HALIDES - CHEMICAL COMPOUNDS.

PENETRATE - GET THROUGH; ENTER.

INFORMATION

THE EMULSION IS A THIN LAYER OF LIGHT-SENSITIVE, SILVER HALIDES AND GELATIN. THE GELATIN HOLDS THE SILVER HALIDES IN PLACE AND YET ALLOWS THE CHEMICALS TO PENETRATE. A COATING OF CLEAR, HARD GELATIN IS APPLIED OVER THE EMULSION TO PREVENT SCRATCHES. THIS IS THE PROTECTIVE COATING.

AS THE FILM GETS WET, THE EMULSION SWELLS. THEN, WHEN THE FILM DRIES, THE EMULSION SHRINKS. THIS CAUSES THE FILM TO CURL. IN ORDER TO CORRECT THIS PROBLEM, A COATING OF GELATIN IS APPLIED TO THE BACK OF THE BASE. THIS IS CALLED THE NON-CURL BACKING. THE LAST LAYER IS THE ANTI-HALATION LAYER. HALATION IS THE REFLECTING OF LIGHT FROM THE BACK OF THE FILM BASE. THIS REFLECTION WILL CAUSE HALOS TO APPEAR ON THE NEGATIVE. THE HALOS ARE CREATED BY LIGHT BOUNCING BACK FROM THE FILM'S BASE AND RE-EXPOSING SOME PREVIOUSLY UNEXPOSED SILVER HALIDES. TO CURE THIS PROBLEM, A DYE (EITHER NEUTRAL GRAY OR THE COLOR TO WHICH THE FILM IS LEAST SENSITIVE IS ADDED TO THE BASE OR ANTI-CURL BACKING.

AS A PHOTOGRAPHER, YOU MUST BE ABLE TO SELECT THE RIGHT FILM FOR THE JOB. NOT ALL FILMS ARE ALIKE, SO THE SELECTION MUST BE A CAREFUL ONE. THERE ARE SIX THINGS TO REMEMBER WHEN CHOOSING BLACK AND WHITE FILM:

1. SPEED
2. GRAIN
3. CONTRAST
4. LATITUDE
5. RESOLVING POWER
6. COLOR SENSITIVITY

SPEED IS THE FILM'S SENSITIVITY TO LIGHT, USUALLY EXPRESSED IN "ASA" NUMBERS. THE HIGHER THE NUMBER, THE FASTER (OR MORE SENSITIVE) THE FILM. FOR EXAMPLE: 32 ASA IS A SLOW SPEED FILM WHILE 1250 ASA IS AN EXTREMELY HIGH SPEED FILM.

CLOSELY RELATED TO SPEED IS GRAININESS. TO GET THE HIGH SPEED FILMS, LARGER SILVER PARTICLES ARE USED. THIS ISN'T MUCH OF A PROBLEM EXCEPT FOR MAKING LARGE PRINTS. WHEN THE NEGATIVE IMAGE IS ENLARGED, EVERYTHING BECOMES LARGER, EVEN THE SILVER PARTICLES. THESE ENLARGED, SILVER PARTICLES LOOK LIKE GRAIN IN THE PRINT.

WORD GUIDE

LATENT - NOT YET COMPLETE; POTENTIAL.

INFORMATION

THE THIRD CHARACTERISTIC OF FILM IS CONTRAST. CONTRAST IS THE DIFFERENCE BETWEEN LIGHT AND DARK AREAS. NORMAL CONTRAST IS REPRESENTED BY A FULL RANGE OF DARK, LIGHT, AND IN-BETWEEN SHADES. HIGH CONTRAST MEANS LITTLE OR NO IN-BETWEEN SHADES, ONLY DARK AND LIGHT. EMULSIONS ARE MADE WITH DIFFERENT DEGREES OF CONTRAST. PROCESS (HIGH CONTRAST) FILM RECORDS A SHORT RANGE OF TONES, SUCH AS BLACK AND WHITE, AND IS USED TO COPY LINE DRAWINGS. NORMAL CONTRAST FILM IS USED TO RECORD A WIDER RANGE OF TONES, AS FOUND IN PORTRAITS OR LANDSCAPES.

THE FOURTH FILM CHARACTERISTIC IS LATITUDE. LATITUDE IS THE EXTENT THE EXPOSURE CAN DEVIATE FROM NORMAL AND STILL PRODUCE AN ACCEPTABLE IMAGE. THIS MEANS HOW FAR CAN THE FILM BE UNDER-EXPOSED OR OVEREXPOSED AND STILL GIVE GOOD NEGATIVES.

THE NEXT TRAIT OF FILM IS THE RESOLVING POWER. RESOLVING POWER IS THE CAPABILITY OF AN EMULSION TO REPRODUCE FINE SUBJECT DETAILS. RESOLVING POWER INCREASES WITH THE FINENESS OF GRAIN OF THE EMULSION.

THE LAST FILM CHARACTERISTIC IS THE COLOR SENSITIVITY. SINCE WE ARE DEALING WITH BLACK AND WHITE FILM, IT MAY SEEM ODD TO TALK ABOUT COLOR SENSITIVITY. BUT, BLACK AND WHITE FILM RESPONDS TO DIFFERENT COLORS, AND DOES NOT RESPOND THE SAME TO EACH COLOR. SILVER HALIDES ARE SENSITIVE TO BLUE, VIOLET, AND ULTRAVIOLET. SENSITIVITY TO OTHER COLORS IS PRODUCED BY ADDING DYES TO THE EMULSION DURING MANUFACTURE. THE TYPE OF FILM WE WILL USE MOSTLY IS "PANCHROMATIC" - WHICH MEANS SENSITIVE TO ALL COLORS.

ONCE THE FILM HAS BEEN EXPOSED, IT HAS A LATENT IMAGE. THE LATENT IMAGE. THE LATENT IMAGE IS THE INVISIBLE REARRANGEMENT OF THE FILM DUE TO THE EXPOSURE. TO CHANGE THE LATENT IMAGE INTO A VISIBLE ONE, THE FILM MUST BE CHEMICALLY PROCESSED. THIS MEANS THE FILM IS "DEVELOPED", "STOPED", AND "FIXED". THE DEVELOPER BRINGS OUT THE IMAGE. THE STOP OR RINSE "STOPS" THE CHEMICAL REACTION OF THE DEVELOPER AND FILM. THE FIX REMOVES ANY UNDEVELOPED OR UNDEREXPOSED SILVER HALIDES. AFTER THE FILM HAS BEEN CHEMICALLY PROCESSED, IT IS WASHED IN RUNNING WATER AND THEN DRIED. AT THIS POINT, WE CAN CALL THE FILM A NEGATIVE.

POST TEST

WRITE ANSWERS ON SCRAP PAPER.

1. PANCHROMATIC MEANS THE FILM IS SENSITIVE TO:

   A. ONLY BLUE, VIOLET, AND ULTRAVIOLET.
   B. ALL COLORS.
   C. RED, BLACK, AND WHITE.
   D. WATER.

2. WHICH IS FASTER (MORE SENSITIVE) FILM?

   A. ASA 32.
   B. ASA 400.

3. WHICH FILM WILL HAVE LARGER "GRAIN"?

   A. ASA 32.
   B. ASA 400.

4. A LENS IS USED TO:

   A. COLLECT LIGHT RAYS AND REDIRECT THEM ONTO THE FILM.
   B. BALANCE THE CAMERA.
   C. CONTROL THE POSITION OF THE FILM.
   D. SEPARATE NEGATIVES.

5. CELLULOSE ACETATE IS USED AS A FILM BASE BECAUSE:

   A. IT IS TRANSPARENT, STRONG, LIGHTWEIGHT, AND FLEXIBLE.
   B. IT IS MORE ACCURATE.
   C. IT HAS LESS RESOLVING POWER.

6. A CAMERA IS:

   A. A LIGHT-TIGHT BOX.
   B. A TYPE OF PLANE.
   C. AN ELEMENT.
   D. A MECHANICAL REPRODUCTION DEVICE.

7. "EXPOSE" MEANS TO LET LIGHT ONTO THE FILM.

   A. TRUE.
   B. FALSE.

8. WHAT ARE THE FIVE LAYERS OF FILM?

   A. BASE, EMULSION, ANTI-CURL BACKING, ANTI-HALATION LAYER, AND THE PROTECTIVE LAYER.
   B. SUBSONIC, BIONIC, STEREOPHONIC, SUPERSONIC, AND SATISONIC.
   C. EMULSION, LATITUDE, RETICULATION, ACCUTANCE, AND DERMIS.

9. WHAT ARE THE TWO TYPES OF SHUTTERS?

   A. LOCAL PAIN AND GENERAL.
   B. SHUTTERS THAT WORK AND SHUTTERS THAT DON'T.
   C. LEAF AND FOCAL PLANE.
   D. COMPOSITE AND SIMPLE.

10. BLACK AND WHITE FILM IS SENSITIVE TO COLOR.

   A. TRUE.
   B. FALSE.

11. IN WHICH ORDER DO WE PROCESS BLACK AND WHITE FILM?

   A. FIX, RINSE, AND DEVELOP.
   B. STOP, DEVELOP, AND FIX.
   C. DEVELOP, STOP, AND FIX.

12. WHICH CHEMICAL STOPS THE ACTION OF THE DEVELOPER?

   A. STOP.
   B. FIX.
   C. BAKING SODA.

ANSWERS TO THE PRE-TEST

1. C
2. A
3. C
4. D
5. B
6. B
7. A
8. D
9. C
10. C
11. A
12. C

ANSWERS TO THE POST TEST

1. B
2. B
3. B
4. A
5. A
6. A
7. A
8. A
9. C
10. B
11. C
12. A

graphics

unit: PHOTOGRAPHY (CONTINUOUS TONE)

capital area career center

module: 1401 16 002
1401 16 002 3
date: 8/77
level:

skill title: PHOTOGRAPHY WITH A PIN-HOLE CAMERA

developed & written by: JERRY REIMER

visuals by: LAURA EIBACH

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO LOAD FILM INTO A PIN-HOLE CAMERA;
2. HOW TO CORRECTLY EXPOSE THE FILM;
3. HOW TO REMOVE AND PROCESS THE FILM TO GET THE NEGATIVE.

AND IN ORDER TO DO THIS YOU WILL NEED:

CONSTRUCTION MATERIALS

FILM

TOWEL

CHEMICALS FOR PROCESSING

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN MAKE A CORRECTLY EXPOSED AND DEVELOPED NEGATIVE.

INFORMATION

AS MENTIONED IN THE FIRST PHOTOGRAPHY MODULE, FILM IS SENSITIVE TO LIGHT. IN THIS MODULE YOU WILL FIND OUT, FIRST-HAND, WHAT THE PROPERLY EXPOSED AND DEVELOPED NEGATIVE LOOKS LIKE. WE WILL START WITH THE PIECE OF FILM AND A PIN-HOLE CAMERA AND THEN WE WILL LOAD THE CAMERA (IN THE DARK). AFTER EXPOSING THE FILM, YOU WILL THEN RETURN TO THE DARKROOM AND PROCESS IT.

BEFORE GOING THROUGH THE JOB STEPS, YOU MAY WISH TO WATCH THE FILMSTRIP SERIES ON EXPOSURE, ENTITLED: EXPOSURE.

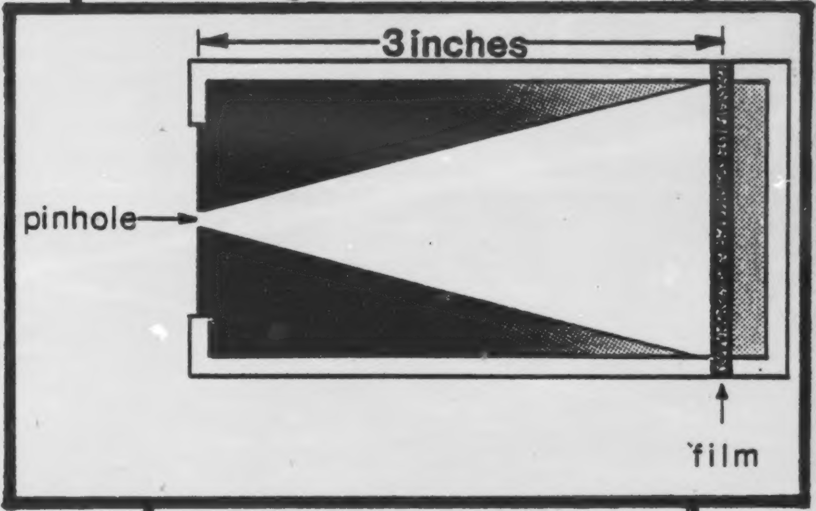
JOB STEPS

1. TAKE ALL EQUIPMENT AND MATERIAL TO YOUR WORK AREA. →

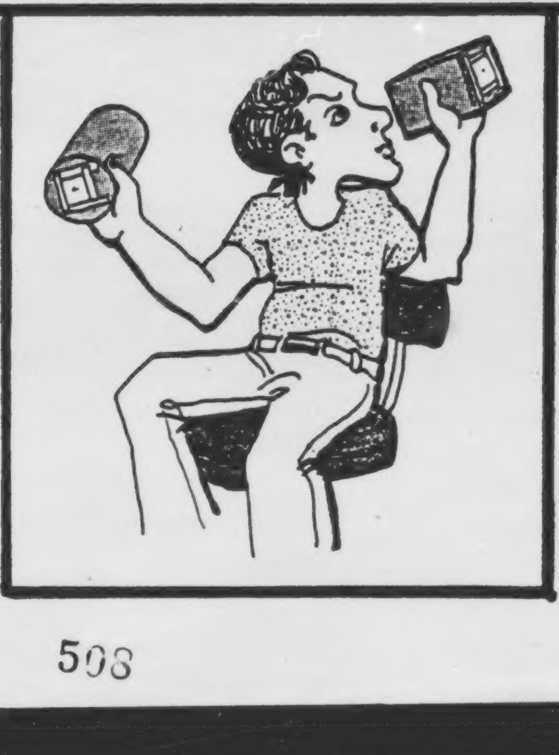
2. ASK INSTRUCTOR FOR SOME SIMPLE PIN-HOLE CAMERAS.

3. USING ANY ONE OF THE EXAMPLES AS A MODEL, MAKE YOUR OWN PIN-HOLE CAMERA. IF NONE OF THE EXAMPLES APPEAL TO YOU, MAKE A CAMERA OF YOUR OWN DESIGN. THERE ARE A FEW THINGS TO REMEMBER HOWEVER;

   A. THE FILM MUST BE THREE INCHES FROM THE PIN-HOLE; →



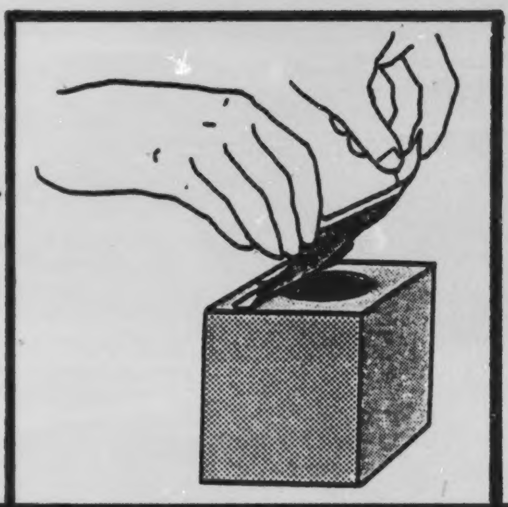
   B. YOU MUST DEVISE SOME TYPE OF SHUTTER; AND →



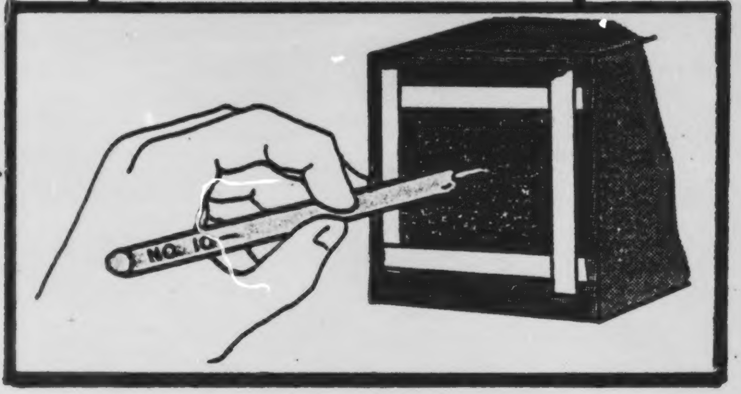
   C. THE INSIDES MUST BE BLACK.

JOB STEPS

4. ATTACH THE METAL PLATE TO THE FRONT OF THE CAMERA. YOUR INSTRUCTOR WILL SUPPLY YOU WITH A METAL PLATE.



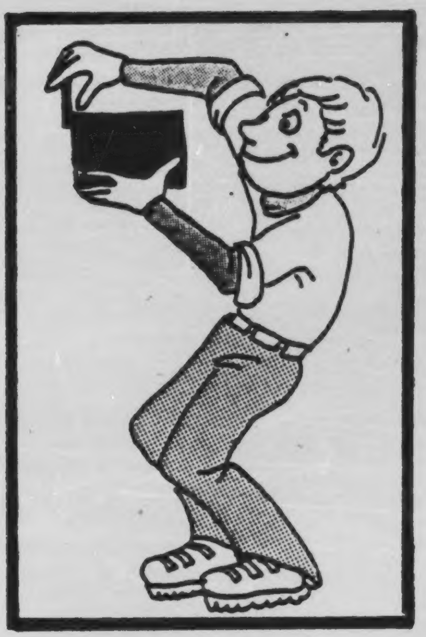
5. USING A #10 PEN, PIERCE THE CENTER OF THE METAL PLATE. THIS BECOMES THE APERTURE OF THE CAMERA.



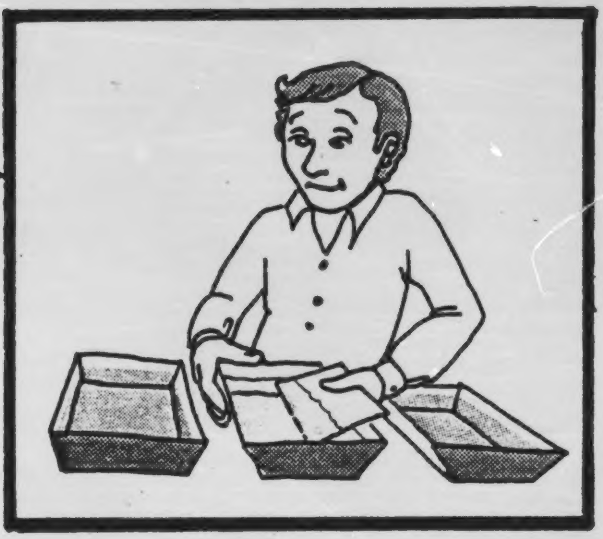
6. ONCE YOU HAVE COMPLETED THE CAMERA, ASK THE INSTRUCTOR FOR THE FILM. LOAD THE FILM IN COMPLETE DARKNESS.

JOB STEPS

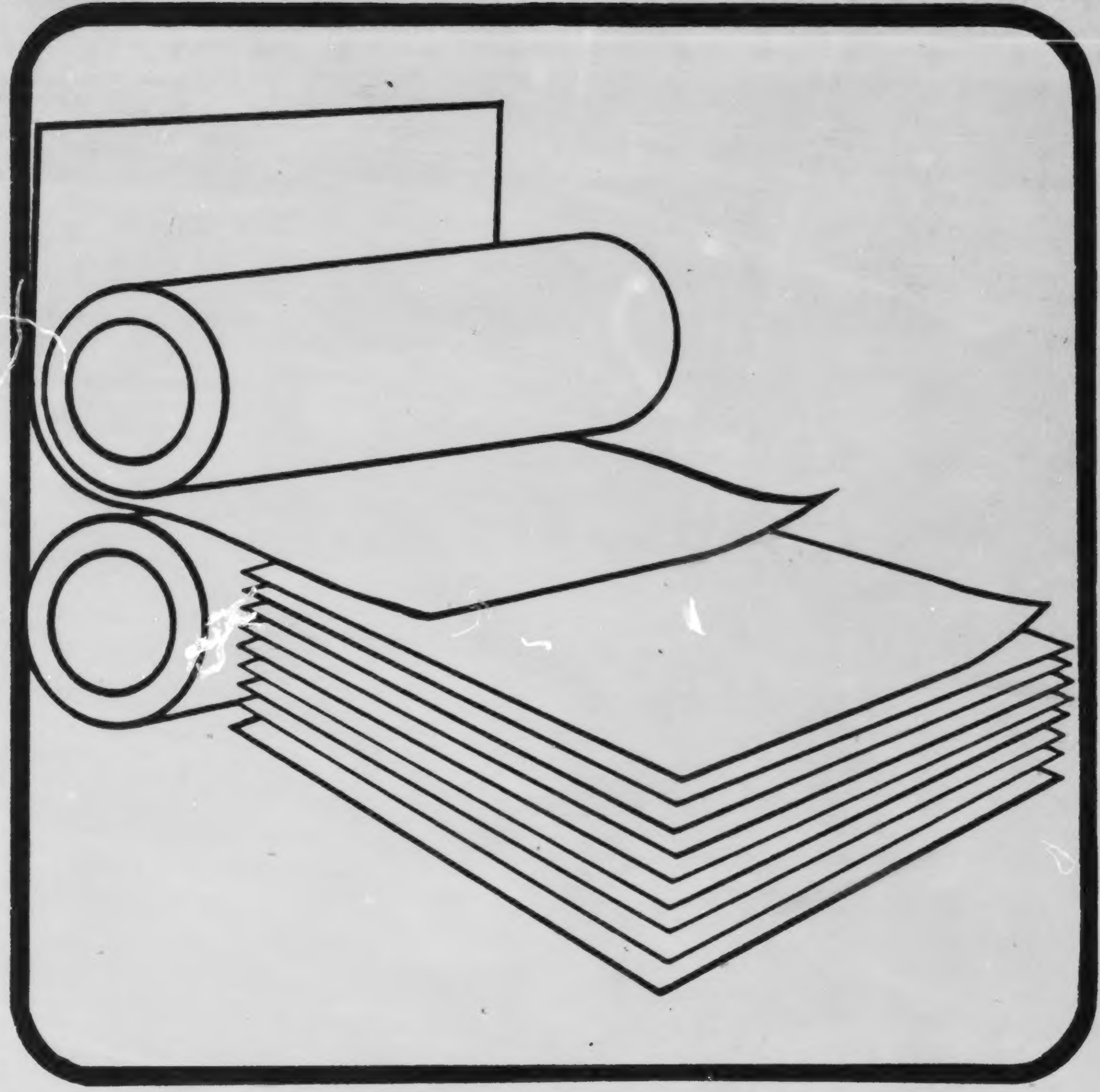
7. FOLLOWING YOUR INSTRUCTOR'S RECOMMENDED EXPOSURE TIMES, EXPOSE THE FILM.



8. ASK THE INSTRUCTOR TO SHOW YOU HOW TO PROCESS THE FILM AND THEN, FOLLOWING INSTRUCTIONS PROCESS THE FILM.



9. CLEAN UP THE AREA AND GO ON TO THE NEXT MODULE.



graphics

unit: PHOTOGRAPHY (CONTINUOUS TONE)

capital area career center

1401 16 003
module: 1401 16 003 3 date: JULY 1977 level: I

skill title: CAMERAS AND BASIC CAMERA OPERATION

developed & written by: JERRY REIMER

visuals by: LAURA EIBACH

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO OPERATE A CAMERA AND WHAT ARE SOME ADVANTAGES AND DISADVANTAGES OF DIFFERENT TYPES OF CAMERAS.

IN ORDER TO DO THIS YOU WILL NEED:

A 35 MM CAMERA

WE WILL KNOW YOU CAN DO IT WHEN:

1. YOU CAN TELL THE DIFFERENCE BETWEEN THE FOUR TYPES OF CAMERAS.
2. YOU CAN CORRECTLY IDENTIFY THE PARTS OF A CAMERA AND TELL WHAT THEY DO.
3. YOU CAN CORRECTLY ANSWER 100% OF THE TEST QUESTIONS.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

THIS MODULE IS COMPOSED OF THREE SECTIONS: THE PRE-TEST, THE INFORMATION, AND THE POST-TEST. TO SEE WHAT YOU KNOW, TAKE THE PRE-TEST. IF YOU ANSWER ALL THE QUESTIONS CORRECTLY, THEN YOU KNOW THE MATERIAL IN THIS MODULE WELL ENOUGH FOR YOU TO GO ON TO THE NEXT MODULE. IF, HOWEVER, YOU MISSED SOME OF THE QUESTIONS, READ THE INFORMATION, THEN TAKE THE POST-TEST. AFTER ANSWERING 100% CORRECTLY, GO ON TO THE NEXT MODULE.

AFTER YOU HAVE COMPLETED THE MODULE, WATCH THE SLIDE/TAPE FOR MOD 1401 16 003/1401 16 003 3.

PRE-TEST

WRITE YOUR ANSWERS ON A PIECE OF SCRAP PAPER.

1. THE CAMERA WITH THE PEEPHOLES IN THE BODY (USED FOR FOCUSING) IS A:
   A. TWIN-LENS REFLEX.
   B. SINGLE-LENS REFLEX.
   C. VIEW CAMERA.
   D. RANGEFINDER

2. THE CAMERA WITH THE MOVABLE MIRROR IS THE:
   A. TWIN-LENS REFLEX.
   B. SINGLE-LENS REFLEX.
   C. VIEW CAMERA.
   D. RANGEFINDER.

3. THE SUBJECT AS SEEN THROUGH THE VIEWFINDER OF THIS CAMERA IS UPSIDE DOWN AND BACKWARDS:
   A. TWIN-LENS REFLEX.
   B. SINGLE-LENS REFLEX
   C. VIEW CAMERA.
   D. RANGEFINDER.

4. THIS CAMERA HAS THE BIGGEST NEGATIVES:
   A. TWIN-LENS REFLEX.
   B. SINGLE-LENS REFLEX.
   C. VIEW CAMERA.
   D. RANGEFINDER.

5. WHAT MUST YOU DO BEFORE YOU REMOVE THE FILM FROM A 35MM CAMERA?
   A. TAKE ALL THE PICTURES.
   B. DEVELOP THE FILM.
   C. ADJUST THE APERTURE.
   D. REWIND THE FILM.

INFORMATION

6. WHAT TWO THINGS MUST BE CONSIDERED WHEN SELECTING THE APERTURE AND SHUTTER SETTINGS?
   A. DEPTH OF FIELD AND MOTION.
   B. EQUAL RIGHT AMENDMENT AND TAFT-HARTLY ACT.
   C. VIEWFINDER AND FILM ADVANCE LEVER.

7. WHAT DOES FOCAL LENGTH MEAN?
   A. THE MAXIMUM DISTANCE YOU CAN FOCUS UPON.
   B. THE DISTANCE FROM THE OPTICAL CENTER TO THE FILM (WHEN FOCUSED ON INFINITY).
   C. THE FILM SIZE.

8. A "NORMAL" LENS SEES THINGS:
   A. AS THE EYE SEES THEM.
   B. PERVERTED.
   C. IN BLACK AND WHITE.

9. AFTER PUTTING THE FILM IN THE CAMERA, WHAT IS THE NEXT THING TO DO?
   A. SET THE FILM'S ASA ON THE SHUTTER SPEED INDICATOR.
   B. FOCUS.
   C. REWIND THE FILM.
   D. CHANGE THE LENS.

10. THE FIRST STEP IN USING THE CAMERA'S LIGHT METER (AFTER SETTING THE FILM'S ASA IS:
   A. ADJUST THE APERTURE.
   B. ADJUST THE SHUTTER SPEED.
   C. TURN ON THE METER.

THE ANSWERS TO THESE QUESTIONS ARE ON PAGE 10.

CAMERAS AND BASIC CAMERA OPERATION

THE CAMERA IS THE PHOTOGRAPHER'S TOOL. WITH A CAMERA IN HAND, HE/SHE CAN RECORD THE IMAGES OF THE WORLD. CAMERAS COME IN ALL STYLES, SHAPES, AND SIZES. LET'S BREAK DOWN ALL THE CAMERAS ACCORDING TO THEIR VIEWING SYSTEMS. EACH CAMERA HAS A SYSTEM WHICH ALLOWS THE PHOTOGRAPHER TO VIEW THE SUBJECT.

HERE ARE THE FOUR MAJOR VIEWING SYSTEMS:
   A. RANGEFINDER
   B. SINGLE-LENS REFLEX.
   C. TWIN-LENS REFLEX.
   D. VIEW CAMERA.

INFORMATION

THE RANGEFINDER CAMERA

- USUALLY USES 35 MM FILM
- IS LIGHTWEIGHT
- IS COMPACT
- IS QUIET
- IS RELIABLE
- FOCUSES NOT THROUGH THE LENS BUT THROUGH SMALL PEEPHOLES IN THE CAMERA BODY (WHILE TURNING THE FOCUSING RING ON THE LENS)
- HAS A PROBLEM WITH PARALLAX (PARALLAX IS THE DIFFERENCE BETWEEN WHAT THE CAMERA SEES AND WHAT THE VIEWER SEES)
- IS SOMETIMES DIFFICULT TO FOCUS BECAUSE THE VIEWFINDER IS USUALLY SMALL

THE SINGLE-LENS REFLEX (SLR) CAMERA

- USUALLY USES 35 MM FILM
- IS HEAVY (COMPARED TO RANGEFINDER AND TWIN-LENS REFLEX CAMERAS)
- TENDS TO BE LARGER THAN MOST RANGEFINDER CAMERAS, YET SMALLER THAN TWIN-LENS REFLEX AND VIEW CAMERAS
- IS THE NOISIEST OF ALL FOUR TYPES OF CAMERAS BECAUSE OF ITS MOVABLE MIRROR
- IS LESS RELIABLE THAN OTHER CAMERAS
- FOCUS LOOKING THROUGH THE CAMERA LENS BY A REFLECTION FROM A MOVABLE MIRROR
- HAS NO PROBLEM WITH PARALLAX - WHAT YOU SEE IS WHAT YOU GET
- IN GOOD LIGHTING, IS EASY TO FOCUS; BUT IN POOR LIGHTING, IS HARD TO FOCUS
- HAS LENSES THAT ARE USUALLY INTERCHANGEABLE

THE TWIN-LENS REFLEX CAMERA

- USES 120 SIZE FILM (BETTER FOR ENLARGEMENTS THAN 35 MM FILM)
- IS LIGHTWEIGHT
- IS BIGGER THAN SLR'S AND RANGEFINDERS, YET SMALLER THAN VIEW CAMERAS
- IS RELIABLE
- IS FOCUSED BY TURNING A KNOB WHILE LOOKING AT THE VIEWING GLASS
- HAS A PROBLEM WITH PARALLAX BECAUSE OF THE TWO LENSES (ONE FOR VIEWING AND ONE FOR THE FILM)
- HAS A BACKWARD IMAGE ON THE VIEWING GLASS
- HAS LENSES WHICH ARE USUALLY NOT INTERCHANGEABLE

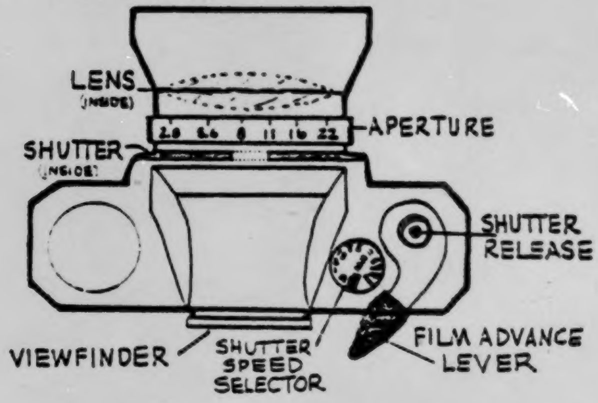
INFORMATION

VIEW CAMERA

- USUALLY USES SHEET FILM, EITHER 4" X 5", 5" X 7", OR 8" X 10" (GOOD FOR ENLARGEMENTS)
- IS HEAVY; TRIPODS ARE RECOMMENDED
- IS QUIET
- IS MECHANICALLY RELIABLE, THOUGH THE BELLOWS MAY LEAK LIGHT AFTER EXTENDED USE
- IS FOCUSED BY MOVING THE LENS FORWARD OR BACK WHILE LOOKING AT THE VIEWING GLASS (THE VIEWING GLASS IS THE SAME SIZE AS THE FILM)
- HAS NO PROBLEM WITH PARALLAX BECAUSE YOU SEE WHAT THE CAMERA SEES; HOWEVER, THE IMAGE IS BACKWARDS AND UPSIDE-DOWN
- HAS EXCELLENT CLOSE-UP CAPABILITIES
- IS SLOW TO USE BECAUSE ONE MUST FOCUS, THEN PUT THE FILM IN THE CAMERA, THEN PULL OUT THE PROTECTIVE SHIELD WHICH KEEPS THE FILM FROM BEING EXPOSED, AND THEN EXPOSE THE FILM

IN MODULE 1401 16 001/1401 16 001 3 (THE BASICS OF THE CAMERA) WE SPOKE OF THE ELEMENTS OF A CAMERA. THE ELEMENTS ARE:

1. LENS
2. APERTURE
3. SHUTTER
4. VIEWFINDER
5. SHUTTER RELEASE
6. FILM ADVANCE LEVER
7. SHUTTER SPEED SELECTOR



THE LENS COLLECTS THE LIGHT AND REDIRECTS IT ONTO THE FILM. ALTHOUGH THIS SEEMS SIMPLE, THE LENSES THEMSELVES ARE COMPLEX ARRANGEMENTS OF FINELY POLISHED GLASS OR PLASTIC. LENSES ARE COMPARED BY THEIR "FOCAL LENGTH". FOCAL LENGTH IS THE DISTANCE FROM THE OPTICAL CENTER OF THE LENS TO THE FILM (WHEN FOCUSED ON INFINITY). A 50 MM LENS IS 50 MM FROM THE FILM TO THE OPTICAL CENTER OF THE LENS, WHEN FOCUSED ON INFINITY. FOR 35 MM CAMERAS, THE 50 MM LENS IS THE NORMAL LENS. NORMAL MEANS SOMETHING CLOSE TO WHAT THE EYE SEES.

THERE ARE ALSO WIDE-ANGLE AND TELEPHOTO LENSES. WIDE-ANGLE LENSES COLLECT LIGHT FROM A WIDER ANGLE OF VIEW, BUT THEY ALSO REDUCE THE IMAGE SIZE COMPARED TO A NORMAL LENS. A TELEPHOTO LENS DECREASES THE ANGLE OF VIEW BUT INCREASES THE IMAGE SIZE COMPARED TO A NORMAL LENS. SO, IF YOU WANT AN IMAGE SMALLER THAN THE IMAGE FROM A NORMAL LENS, YOU WOULD USE THE WIDE-ANGLE LENS.

A ZOOM LENS HAS A VARIABLE FOCAL LENGTH. WITH A ZOOM LENS YOU CAN EASILY CHANGE FOCAL LENGTH.

INFORMATION

THE APERTURE IS A PART OF THE CAMERA CLOSELY ASSOCIATED WITH THE LENS. THE APERTURE IS FOUND DIRECTLY BEHIND THE LENS. ITS FUNCTION IS TO CONTROL THE AMOUNT OF LIGHT ENTERING THE CAMERA. IF A GREAT DEAL OF LIGHT IS NEEDED, THE APERTURE SHOULD BE OPENED WIDE. ANOTHER FUNCTION OF THE APERTURE IS DEPTH OF FIELD. DEPTH OF FIELD IS THE RANGE FROM NEAR TO FAR OBJECTS WHICH ARE IN CLEAR FOCUS. BY USING A SMALL APERTURE OPENING, YOU GAIN A WIDER RANGE OF FOCUS OR DEPTH OF FIELD. IF ONLY A SMALL RANGE OF FOCUS IS NEEDED, USE A LARGE APERTURE OPENING.

THE SHUTTER WORKS WITH THE APERTURE TO GIVE THE CORRECT EXPOSURE. THE CORRECT EXPOSURE MEANS THE FILM GETS JUST THE RIGHT AMOUNT OF LIGHT TO MAKE AN EXCELLENT NEGATIVE. EXPOSING FILM IS LIKE FILLING A BUCKET WITH WATER: TO FILL THE BUCKET YOU CAN LET THE WATER POUR OUT RAPIDLY UNTIL THE BUCKET IS FILLED OR YOU CAN LET THE WATER TRICKLE OUT SLOWLY UNTIL THE BUCKET IS FILLED; IF YOU LET THE WATER TRICKLE OUT, HOWEVER, FILLING THE BUCKET WILL TAKE MORE TIME. IF YOU ALLOW A LOT OF LIGHT TO ENTER A CAMERA, THE EXPOSURE TIME WILL BE SHORT. USING A SMALL APERTURE, WHICH LETS IN A SMALL AMOUNT OF LIGHT, MEANS YOU MUST LET IN THE LIGHT FOR A LONGER TIME. IF YOU WANT A PHOTO WITH A GREAT DEPTH OF FIELD (WHICH MEANS A SMALL APERTURE OPENING), YOU WILL HAVE TO EXPOSE FOR A LONGER TIME.

THE APERTURE OPENINGS ARE REFERRED TO AS "F-NUMBERS". SMALL F-NUMBERS MEAN LARGE APERTURE OPENINGS; LARGE F-NUMBERS MEAN SMALL APERTURE OPENINGS.

THE SHUTTER ALSO HAS NUMBERS. THESE NUMBERS REPRESENT FRACTIONS OF A SECOND. MOST SHUTTER SPEEDS RANGE FROM 1/1000TH OF A SECOND TO INFINITY. THE NUMBERS WILL APPEAR LIKE THIS: 1, 2, 4, 8. 15, 30, 60, 125, 250, 500, AND 1000. JUST REMEMBER THAT THE NUMBER IS THE FRACTION OF A SECOND THAT THE SHUTTER STAYS OPEN. FOR EXAMPLE, 8 MEANS 1/8TH OF A SECOND, AND 125 MEANS 1/125TH OF A SECOND.

SHUTTER SPEED CONTROLS BLURRINESS OF THE IMAGE. A MOVING DRAGSTER WILL BE A BLUR OF LIGHT IF THE SHUTTER SPEED IS NOT FAST ENOUGH TO STOP THE MOTION. EVEN YOUR HEARTBEAT CAN SHAKE THE CAMERA ENOUGH TO BLUR THE PICTURE IF THE SHUTTER SPEED IS VERY SLOW. THEREFORE, CONSIDER TWO THINGS WHEN GETTING THE CORRECT EXPOSURE: DEPTH OF FIELD AND MOTION.

INFORMATION

WE HAVE BEEN DISCUSSING HOW THE SHUTTER AND APERTURE COMBINE TO GIVE US THE CORRECT EXPOSURE, BUT HOW DO WE KNOW WHEN WE HAVE THE CORRECT EXPOSURE? MOST CAMERAS HAVE A BUILT IN LIGHT-METER. THIS LIGHT METER WILL TELL US HOW MUCH LIGHT IS BEING REFLECTED FROM THE SUBJECT. WE USE THE INFORMATION FROM THE LIGHT METER TO GET THE CORRECT EXPOSURE.

IN THE FIRST MODULE, WE TALKED ABOUT THE FILM'S SENSITIVITY TO LIGHT. THIS SENSITIVITY IS NOTED IN ASA NUMBERS. THE HIGHER THE ASA, THE MORE SENSITIVE THE FILM IS TO LIGHT. TO LET THE LIGHT-METER IN OUR CAMERA KNOW WHAT ASA FILM WE ARE USING, WE MUST ADJUST THE ASA NUMBER IN THE WINDOW OF THE SHUTTER SPEED INDICATOR TO THE FILM'S ASA NUMBER. THE NEXT STEP IS TO TURN ON THE METER (THE METER IS BATTERY-OPERATED.) NOW, AIM THE CAMERA AT THE SUBJECT AND NOTICE HOW THE POINTER AND CIRCLE IN THE VIEWFINDER MOVE WHEN THE CAMERA IS AIMED AT DIFFERENTLY LIGHTED OBJECTS. WHILE AIMING THE CAMERA AT THE SUBJECT, ADJUST THE APERTURE OR SHUTTER SPEED UNTIL THE POINTER AND RING ARE ALIGNED WITH EACH OTHER. THE CAMERA IS NOW SET FOR EXPOSURE. THAT IS HOW SIMPLE IT IS TO USE A LIGHT METER.

THE NEXT PART OF THE CAMERA IS THE VIEWFINDER. VIEWFINDERS SHOW THE PHOTOGRAPHER WHAT THE CAMERA SEES. THIS MEANS THE CAMERA IS FOCUSED AS YOU LOOK THROUGH THE VIEWFINDER AND MOVE THE FOCUSING KNOB OR RING.

ANOTHER PART OF THE CAMERA IS THE SHUTTER RELEASE. THE SHUTTER RELEASE ACTIVATES THE SHUTTER SO IT OPENS AND CLOSES. MOST OF THE TIME, WHEN YOU PRESS THE SHUTTER RELEASE BUTTON, THE SHUTTER OPENS AND CLOSES AT A PREDETERMINED RATE (THE SHUTTER SPEED).

THE LAST PART OF THE CAMERA IS THE FILM ADVANCE LEVER. VERY SIMPLY, IT IS THE LEVER YOU USE TO MOVE THE FILM TO THE NEXT UNEXPOSED AREA.

POST-TEST

WRITE THE ANSWERS ON SCRAP PAPER. THE ANSWERS ARE ON PAGE 10.

1. NAME THE FOUR TYPES OF CAMERA VIEWING SYSTEMS.
   A. SINGLE-LENS REFLEX, TWIN-LENS REFLEX, RANGEFINDER AND VIEW
   B. SINGLE-LENS REFLEX, ASA, EMULSION, AND TWIN-LENS REFLEX
   C. TWIN-LENS REFLEX, RANGEFINDER, SINGLE-LENS REFLEX, AND OPTICAL ILLUSIONATOR

INFORMATION

2. WHICH CAMERA HAS A PROBLEM WITH PARALLAX AND USES MOSTLY 35 MM FILM?
   A. RANGEFINDER
   B. VIEW CAMERA
   C. SINGLE-LENS REFLEX
   D. TWIN-LENS REFLEX

3. WHICH CAMERA IS THE NOISIEST?
   A. RANGEFINDER
   B. VIEW CAMERA
   C. SINGLE-LENS REFLEX
   D. TWIN-LENS REFLEX

4. WHY?
   A. BECAUSE OF THE EXHAUST SYSTEM
   B. BECAUSE OF THE MOVING MIRROR
   C. BECAUSE OF ACCOUSTICS
   D. BECAUSE OF THE FILM SIZE

5. WHICH CAMERA HAS A SEPARATE LENS FOR FOCUSING?
   A. SINGLE-LENS REFLEX
   B. TWIN-LENS REFLEX
   C. VIEW CAMERA
   D. RANGEFINDER

6. A TELEPHOTO LENS _______________ THE IMAGE SIZE.
   A. INCREASES
   B. DECREASES

7. A LENS WITH MANY FOCAL LENGTHS IS CALLED A ____________LENS.
   A. WIDE ANGLE
   B. TELEPHOTO
   C. NORMAL
   D. ZOOM

8. DEPTH OF FIELD IS THE RANGE OF OBJECTS IN FOCUS FROM NEAR TO FAR, AND IS CONTROLLED BY:
   A. THE SHUTTER SPEED
   B. THE APERTURE
   C. THE CAMERA STYLE
   D. THE GOVERNMENT

9. THE SHUTTER SPEED HAS NUMBERS TO DENOTE THE EXPOSURE TIME. 125 MEANS:
   A. THE SHUTTER OPENS AND CLOSES 125 TIMES A SECOND
   B. THE SHUTTER OPENS AND CLOSES AT A RATE OF 1/125 OF A SECOND
   C. THERE ARE 125 SHUTTER ELEMENTS

10. TO PHOTOGRAPH A FAST MOVING OBJECT (WHEN YOU WANT TO STOP THE BLURRINESS):
    A. USE A SLOW SHUTTER SPEED
    B. USE A FAST SHUTTER SPEED
    C. USE A SMALL F-NUMBER

INFORMATION

ANSWERS FOR PRE-TEST

1. D
2. B
3. C
4. C
5. D
6. A
7. B
8. A
9. A
10. C

ANSWERS FOR POST-TEST

1. A
2. A
3. C
4. B
5. B
6. A
7. D
8. B
9. B
10. B

JOB STEPS

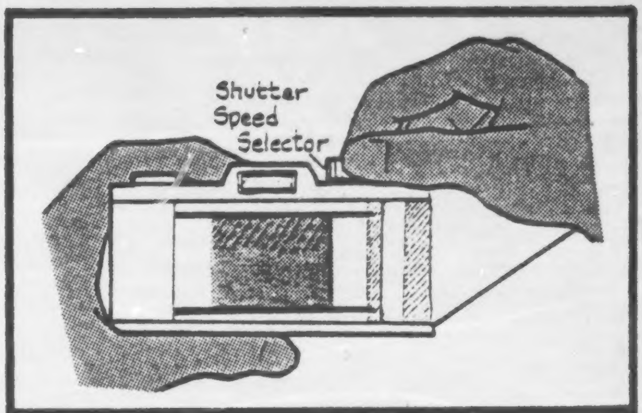
1. GET A 35 MM CAMERA AND ITS INSTRUCTION BOOKLET. EACH BRAND OF CAMERA IS SLIGHTLY DIFFERENT. STUDY THE PICTURES IN THE INSTRUCTION BOOKLET TO LEARN WHERE THESE PARTS ARE ON YOUR CAMERA:

    A. SHUTTER RELEASE
    B. ADVANCE LEVER
    C. APERTURE RING
    D. SHUTTER SPEED SELECTOR

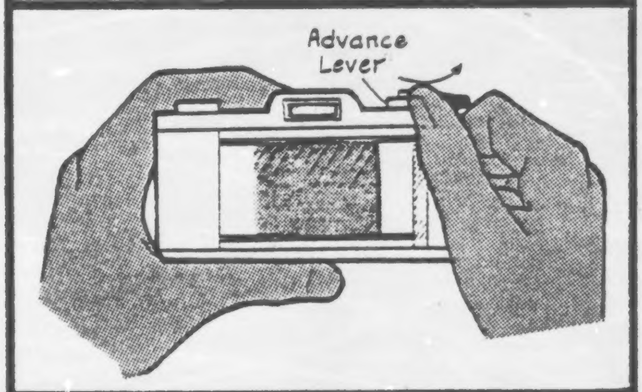
2. FOLLOWING THE DIRECTIONS IN THE BOOKLET, OPEN THE BACK OF THE CAMERA. IF YOU ARE NOT SURE HOW TO DO THIS, ASK YOUR INSTRUCTOR.

3. HOLD THE CAMERA FIRMLY IN YOUR LEFT HAND.

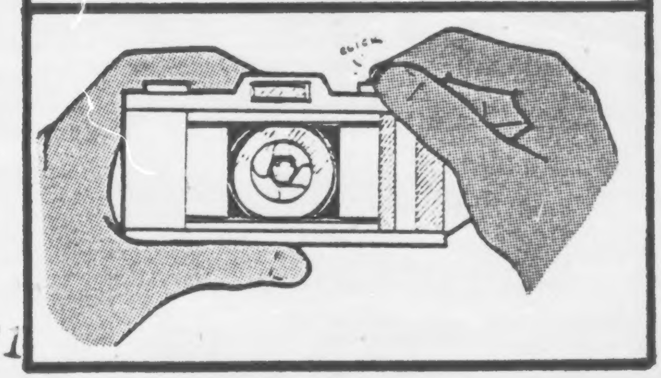
    A. WITH YOUR RIGHT HAND, SET THE SHUTTER SPEED SELECTOR TO ANY NUMBER.



    B. ADVANCE THE FILM ADVANCE LEVER TO "COCK" THE SHUTTER.



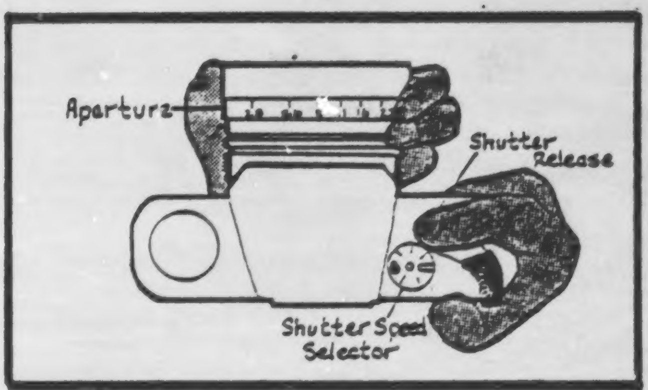
    C. PRESS THE SHUTTER RELEASE BUTTON.



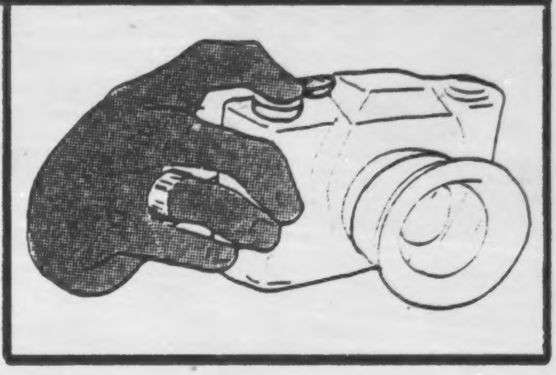
JOB STEPS

WATCH HOW FAST THE SHUTTER MOVES. CHANGE THE NUMBER, "COCK" THE SHUTTER AND PRESS THE BUTTON AGAIN. NOTICE THE CHANGE IN SHUTTER SPEED. REPEAT THIS FOR ALL THE NUMBERS ON THE SELECTOR.

4. NOW, SET THE SHUTTER SPEED SELECTOR AT "B". WHILE HOLDING THE SHUTTER RELEASE DOWN, LOOK THROUGH THE LENS AND TURN THE APERTURE RING TO SEE THE DIFFERENT SIZE OPENINGS.



5. WITH THE BACK STILL OPEN AND THE SHUTTER SPEED SET AT 125, POINT THE CAMERA AT SOME LIGHT SOURCE AND THEN RELEASE THE SHUTTER. THIS SHOWS JUST HOW LITTLE LIGHT IS NEEDED TO EXPOSE FILM.



JOB STEPS

6. LOAD THE CAMERA WITH FILM. ADVANCE THE FILM TO "0". SHOOT THE FOLLOWING SUBJECTS:

   A. YOURSELF
   B. PROFILE OF YOU OR SOMEONE ELSE
   C. OUTDOOR SCENE
   D. A FRIEND (THE ENTIRE PERSON) FROM ABOUT 6 FEET AWAY
   E. A FRIEND; POINT THE CAMERA AT FEET (STILL 6 FEET AWAY)
   F. A FRIEND; POINT THE CAMERA AT HEAD (STILL 6 FEET AWAY)
   G. ANY SCENE BUT OVEREXPOSE BY TWO STOPS
   H. ANY SCENE (PREFERABLY THE SAME SCENE AS ABOVE) BUT UNDEREXPOSE BY TWO STOPS
   I. PAN (THIS MEANS TO FOLLOW THE MOVING SUBJECT WITH THE CAMERA) A MOVING SUBJECT WITH A SLOW SHUTTER SPEED
   J. PAN LIKE ABOVE, BUT WITH A FAST SHUTTER SPEED
   K. ANYTHING NOT MOVING, USING A SLOW SHUTTER SPEED
   L. ANYTHING NOT MOVING, USING A FAST SHUTTER SPEED
   M. ANYTHING WITH A GREAT DEAL OF DEPTH, USING A LARGE APERTURE OPENING
   N. SAME AS ABOVE, EXCEPT WITH A SMALL APERTURE OPENING
   O. FROM INSIDE A BUILDING, POINT THE CAMERA AT AN UNCOVERED WINDOW
   P. FROM ONE SIDE OF THE WINDOW ABOVE, POINT THE CAMERA AT SOMETHING IN THE BUILDING

   THE LAST FEW SHOTS ARE ANYTHING YOU WANT. IT IS RECOMMENDED YOU WRITE DOWN THE APERTURE AND SHUTTER SETTINGS ON A PIECE OF PAPER IMMEDIATELY AFTER EACH SHOT. THIS WILL GIVE YOU SOMETHING TO WORK FROM TO IMPROVE YOUR PHOTOGRAPHS. IF YOU DON'T KNOW THE SETTINGS AND THE PHOTOGRAPH COMES OUT BADLY, YOU WILL NOT KNOW HOW TO IMPROVE THE NEXT SIMILAR SHOT.

7. REWIND THE FILM INTO ITS CONTAINER AND REMOVE IT FROM CAMERA. FOLLOWING THE NEXT MODULE, DEVELOP YOUR ROLL OF FILM AND DO A CONTACT SHEET TO SHOW YOUR INSTRUCTOR.

graphics

unit: PHOTOGRAPHY (CONTINUOUS TONE)

capital area career center

1401 16 004
module: 1401 16 004 3 **date:** AUGUST 1977 **level:**

skill title: 35 MM FILM DEVELOPING

developed & written by: JERRY REIMER

visuals by: LAURA EIBACH

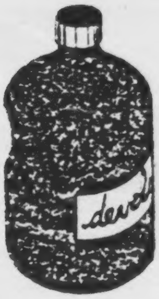
PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

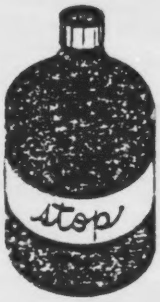
HOW TO CHANGE THE EXPOSED FILM INTO PROCESSED NEGATIVES.

IN ORDER TO DO THIS YOU WILL NEED:

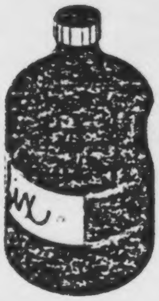
RUNNING WATER



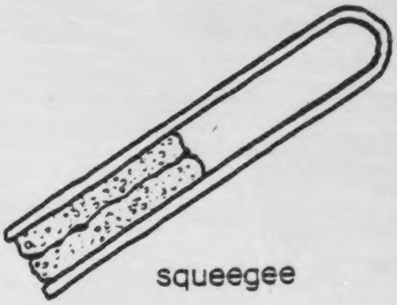
developer



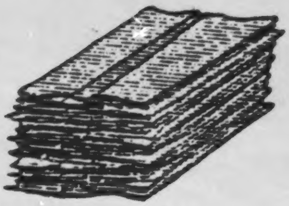
stop



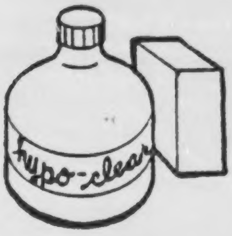
fix



squeegee



TOWEL



hypo-clear

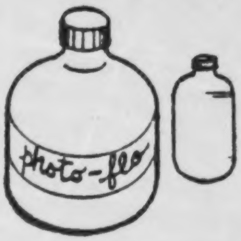
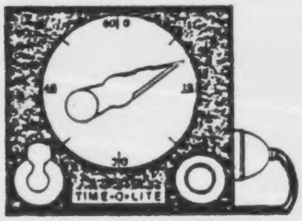
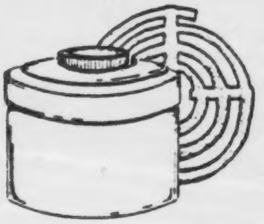


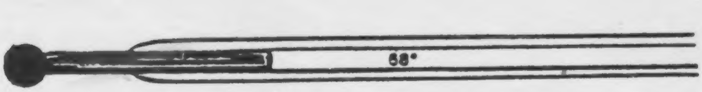
photo-flo



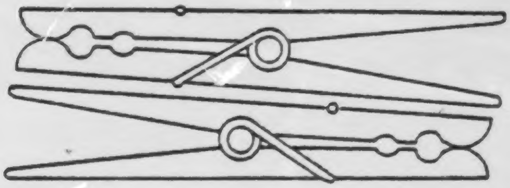
timer



developing tank
(35mm / two reel tank)



photography thermometer



FILM CLIPS

PERFORMANCE OBJECTIVE

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN PROCESS AN EXPOSED ROLL OF FILM SUCCESSFULLY. YOU WILL BE JUDGED ON THE QUALITY OF:

1. DEVELOPING (LACK OF AIR-BELLS ON THE NEGATIVE, GOOD CONTRAST);
2. FIXING (IF THE FILM IS FIXED CORRECTLY, IT WILL NOT DARKEN WHEN EXPOSED TO LIGHT);
3. DRYING (THE LACK OF WATER SPOTS).

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

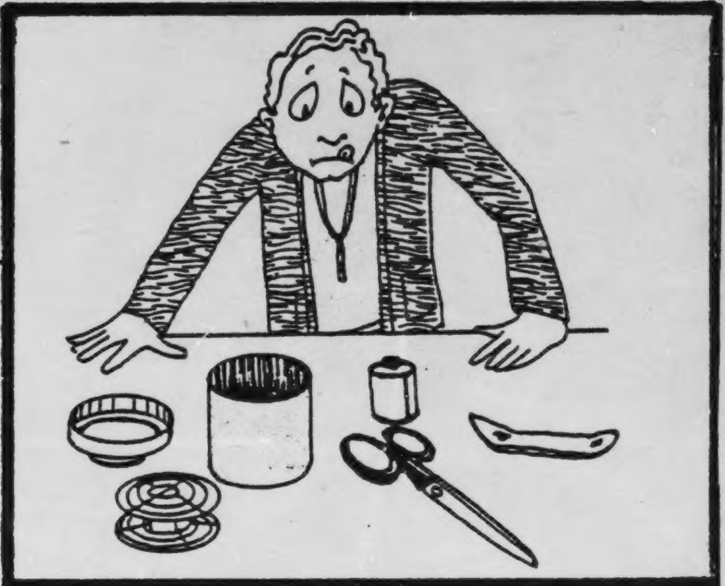
CONFIDENT - SURE

JOB STEPS

PRIOR TO FOLLOWING THE JOB STEPS. VIEW THE FILMSTRIP SERIES: DEVELOPING ROLL FILM AND MAKING A CONTACT SHEET.

1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

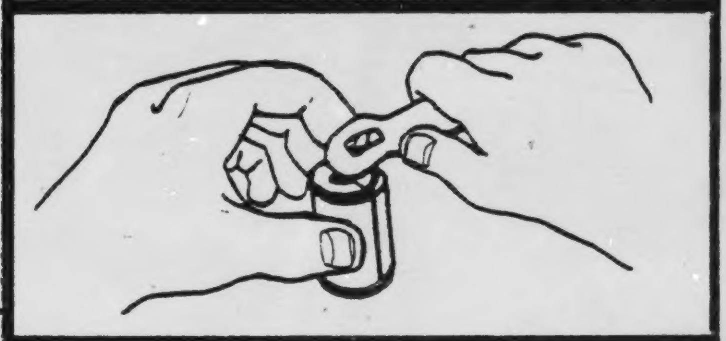
2. GO INTO THE DARKROOM AND MEMORIZE WHERE THESE THINGS ARE LOCATED: THE DOOR LOCK, THE LIGHT SWITCH, THE TANK, THE REEL, THE SCISSORS, THE FILM CONTAINER OPENER, AND THE COVER FOR THE TANK.



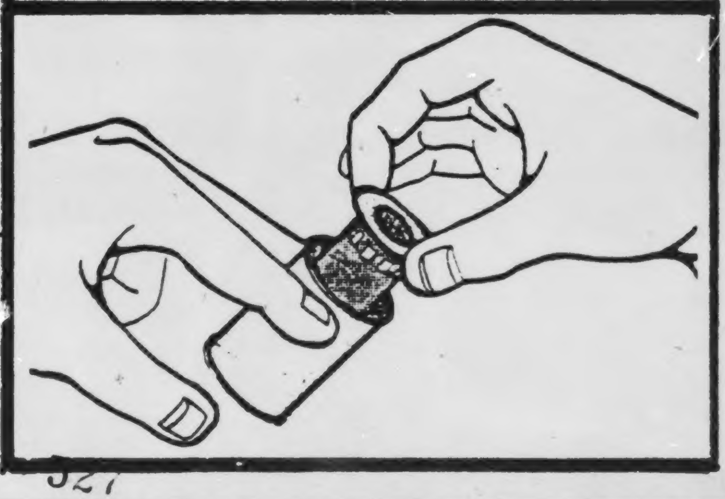
3. GET A PRACTICE ROLL OF FILM FROM THE INSTRUCTOR. WITH THE PRACTICE ROLL, GO THROUGH ALL THE STEPS (3-15) WITH THE LIGHTS ON. AFTER SEVERAL TRIAL RUNS, TRY PUTTING THE PRACTICE ROLL OF FILM ON THE REEL IN THE DARK.

4. ONCE YOU FEEL CONFIDENT ABOUT DOING THE JOB STEPS, CLOSE AND LOCK THE DARKROOM DOOR.

5. TURN OFF THE LIGHT. FIND THE FILM CONTAINER OPENER AND OPEN THE CONTAINER.

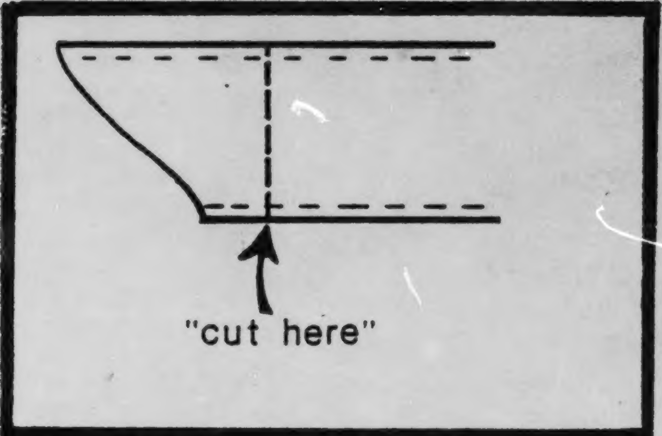


6. REMOVE THE FILM BY GRABBING THE PLASTIC SPOOL (ON WHICH THE FILM IS WOUND). SINCE THE FILM IS WOUND ONTO THE SPOOL, TAKE CARE NOT TO HANDLE THE FILM EXCEPT BY THE EDGES.

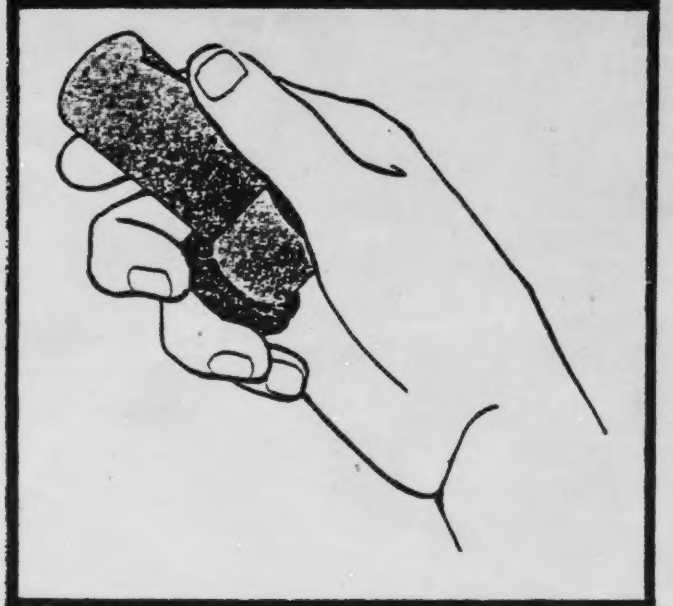


JOB STEPS

7. WITH THE SCISSORS, CUT THE FILM LIKE THIS:

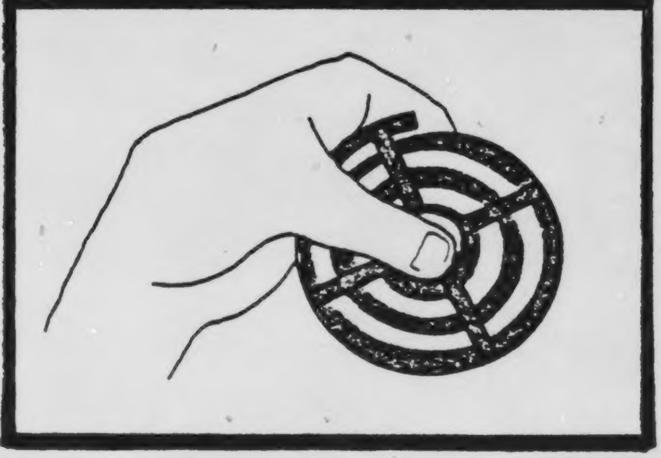


8. HOLD THE SPOOL WITH FILM IN YOUR RIGHT HAND.



9. FIND THE DEVELOPING REEL AND HOLD IT IN YOUR LEFT HAND. HOLD THE REEL LIKE THIS:

NOTE: LEFTIES, REVERSE THE ABOVE.

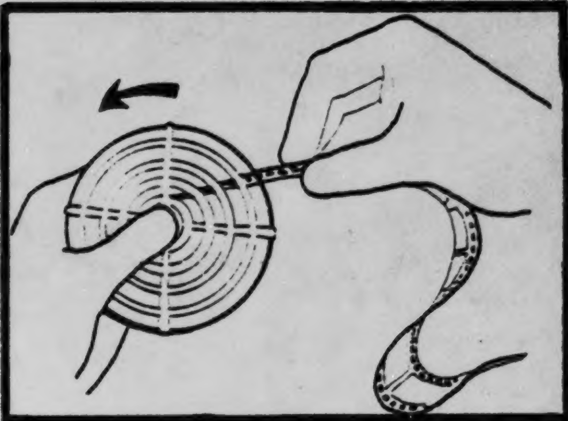


WORD GUIDE

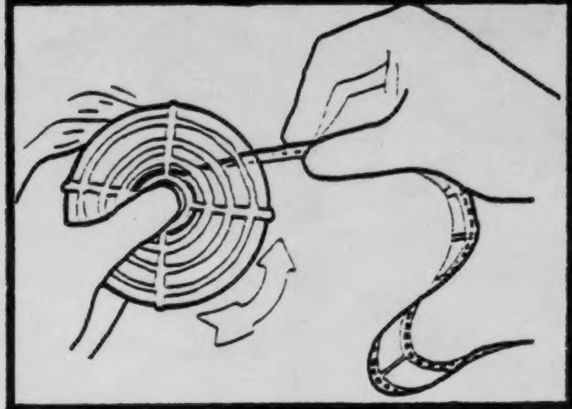
COUNTER-CLOCKWISE - TO THE LEFT.

JOB STEPS

10. INSERT THE END OF THE FILM INTO THE CENTER OF THE REEL. ATTEMPT TO BOW THE FILM SLIGHTLY AS YOU TURN THE REEL COUNTER-CLOCKWISE.



11. CONTINUE TURNING THE REEL COUNTER-CLOCKWISE UNTIL ALL THE FILM IS WOUND ON THE REEL.

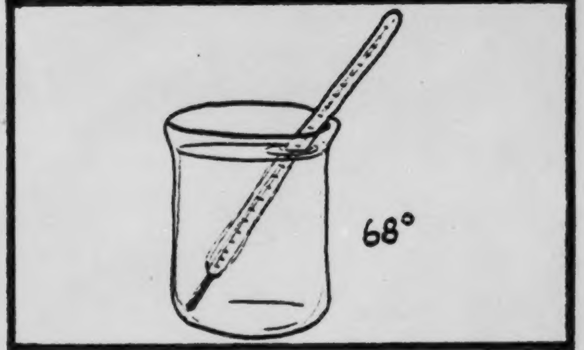


12. FIND THE DEVELOPING TANK AND PLACE THE REEL INSIDE IT. THEN, PUT THE COVER ON THE TANK.

13. TURN ON THE LIGHT, OPEN THE DOOR, AND CLEAN UP THE DARKROOM.

14. TAKE THE TANK OVER TO THE PROCESSING AREA. WITH THE THERMOMETER, MEASURE THE TEMPERATURE OF THE CHEMICALS.

NOTE: THE IDEAL TEMPERATURE IS 68° F., BUT OTHER TEMPERATURES CAN BE USED WITH GOOD RESULTS. CONSULT THE INSTRUCTOR FOR THE PROCESSING TIMES FOR EACH SOLUTION. IT IS BEST TO WRITE DOWN THE TIMES ON A SCRAP PIECE OF PAPER, LIKE THIS:

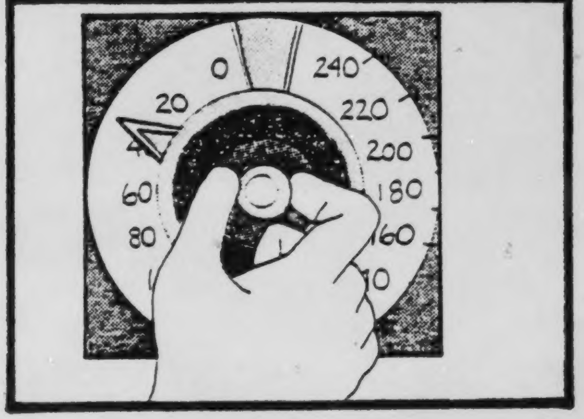


(DILUTE THE DEVELOPER: 1 PART DEVELOPER TO 1 PART WATER)

DEVELOPER: ___ MINUTES
STOP: ___ MINUTES
FIX: ___ MINUTES
RUNNING WATER RINSE: ___ MINUTES
HYPO-CLEARING AGENT: ___ MINUTES
RUNNING WATER RINSE: ___ MINUTES
PHOTO-FLO: ___ MINUTES (IF USED)
DRYING: ___ MINUTES

TRY TO REMEMBER THE ORDER OF THE CHEMICALS IN THIS MANNER.

15. FIND THE TIMER. PRACTICE WITH IT UNTIL YOU BECOME FAMILIAR WITH THE WAY IT OPERATES.

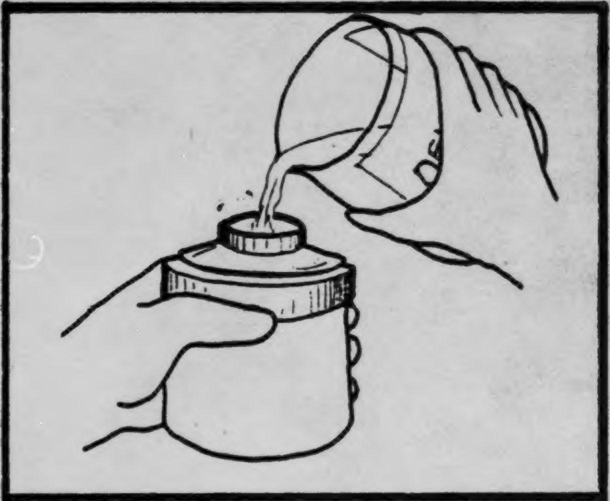


WORD GUIDE

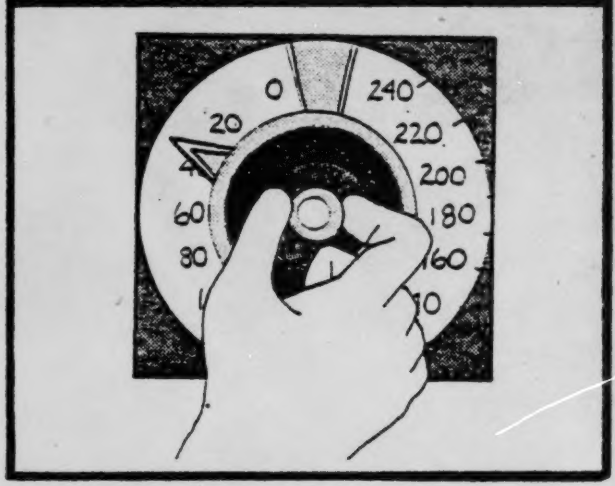
PRESCRIBED - RECOMMENDED

JOB STEPS

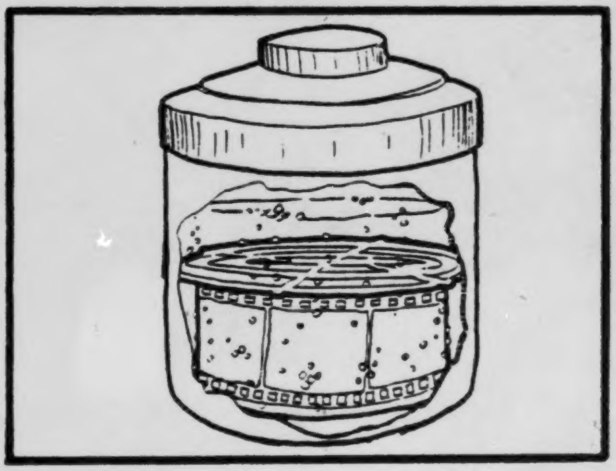
16. WITH THE TOP OF THE TANK STILL IN PLACE, POUR THE DEVELOPER INTO THE TANK.



17. IMMEDIATELY START THE TIMER FOR THE SPECIFIED TIME.



18. TAP THE TANK ON A HARD SURFACE (THIS DISLODGES ANY AIR BUBBLES ON THE FILM).

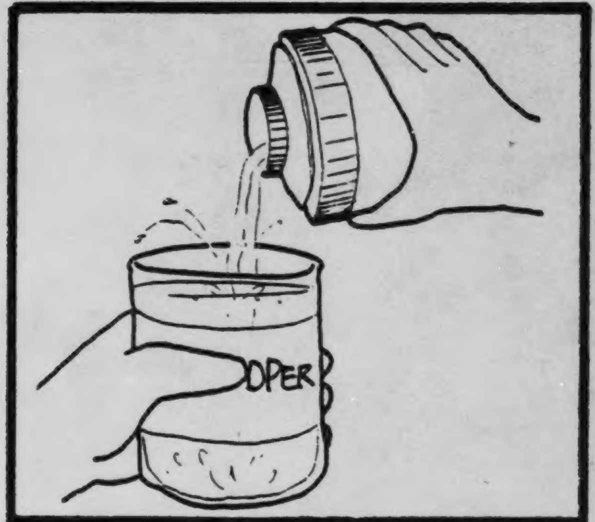


NOTE: IF ANY AIR BUBBLES REMAIN ON THE FILM DURING DEVELOPMENT, CLEAR SPOTS WILL SHOW UP ON THE NEGATIVE. THESE CLEAR SPOTS ARE CALLED "AIR BELLS".

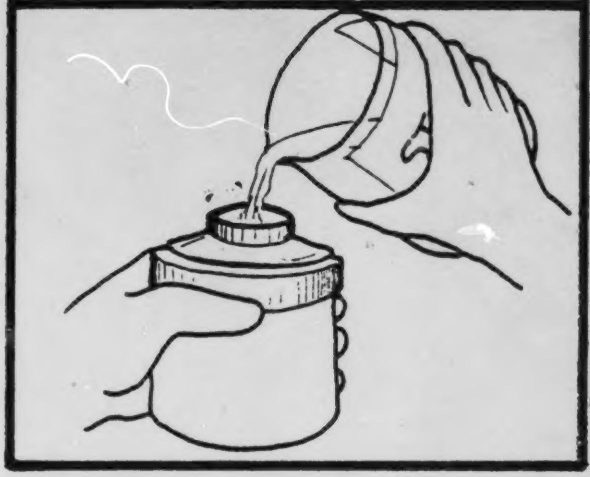
19. GENTLY ROCK THE TANK FOR THE SPECIFIED AGITATION TIME. DO THIS AT THE PRESCRIBED INTERVALS. GENERALLY, AGITATION IS FOR FIVE SECONDS EVERY THIRTY SECONDS.

JOB STEPS

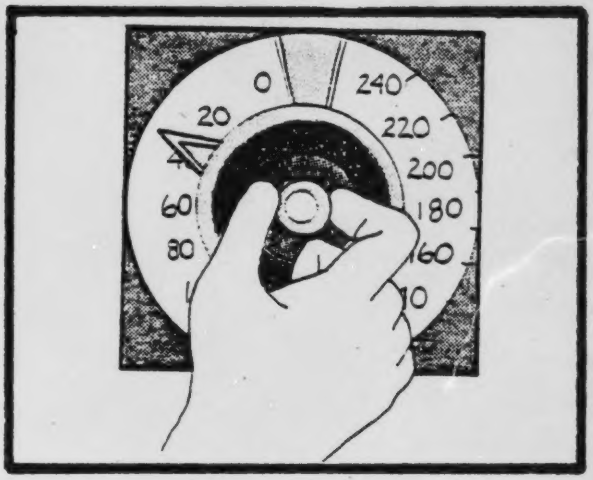
20. FIFTEEN SECONDS BEFORE THE END OF THE DEVELOPMENT TIME, POUR OUT THE DEVELOPER.



21. POUR IN THE STOP.

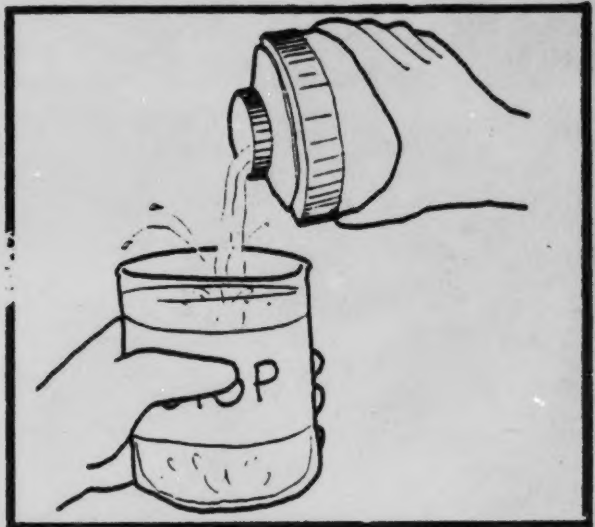


22. IMMEDIATELY, START THE TIMER FOR THE SPECIFIED TIME AND THEN AGITATE AS REQUIRED.


0
240
20
220
40
200
60
180
80
160
10

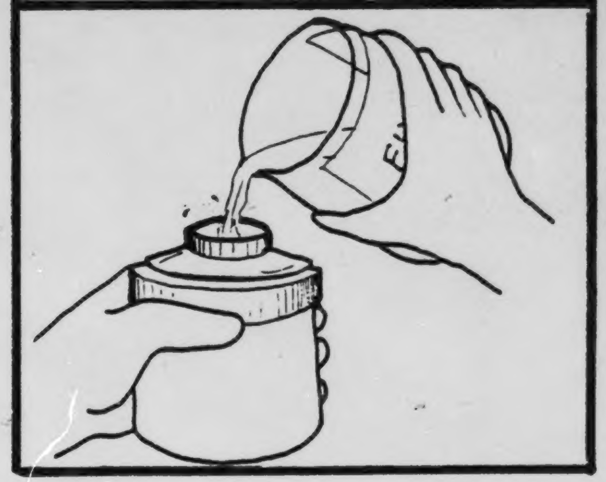
JOB STEPS

23. POUR THE STOP BACK INTO THE STOP CONTAINER (INDICATOR STOP BATH CAN BE USED UNTIL IT TURNS DARK) FIFTEEN SECONDS BEFORE THE END OF THE SPECIFIED TIME.

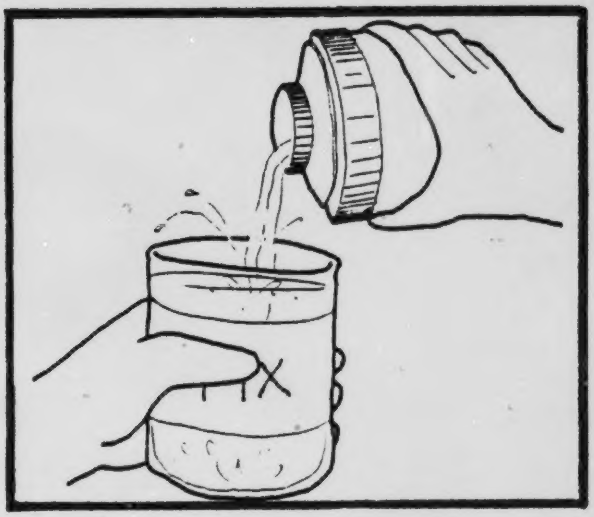


24. POUR IN THE FIX SOLUTION.

25. START THE TIMER IMMEDIATELY FOR THE NECESSARY TIME AND THEN AGITATE AS REQUIRED.

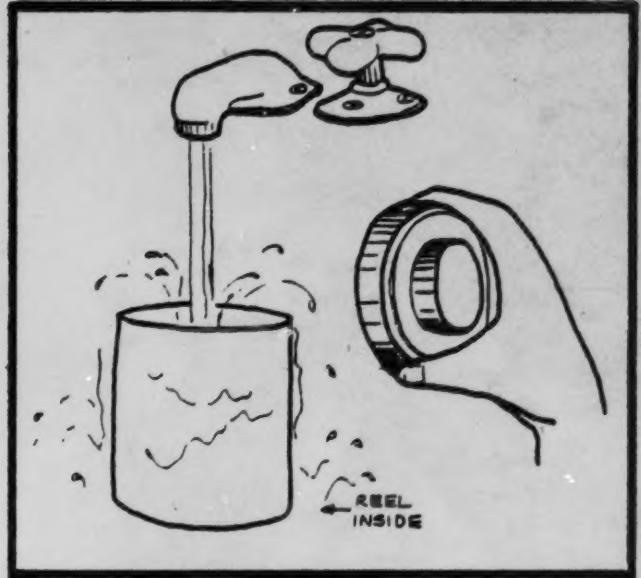


26. POUR THE FIX BACK INTO THE CONTAINER FIFTEEN SECONDS BEFORE THE END OF THE SPECIFIED TIME.

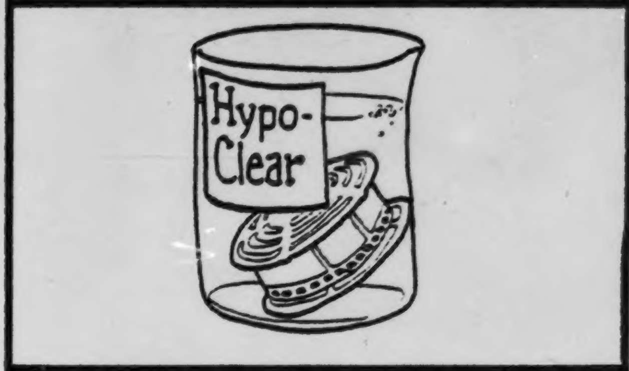


JOB STEPS

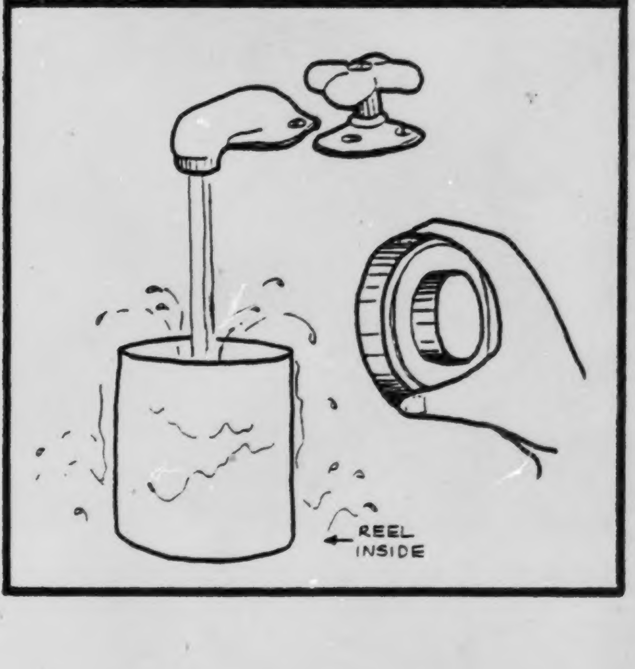
27. REMOVE THE TANK COVER, THEN, RINSE THE FILM IN RUNNING WATER FOR THE RECOMMENDED TIME.



28. REMOVE THE FILM FROM THE RUNNING WATER (THE FILM SHOULD STILL BE ON THE REEL) AND PLACE IT IN THE HYPO-CLEARING AGENT FOR THE RECOMMENDED TIME. AGITATE AS NECESSARY.



29. WHEN THE FILM IS REMOVED FROM THE HYPO-CLEARING AGENT, AFTER THE PRESCRIBED TIME, IT SHOULD BE ALLOWED TO RINSE IN RUNNING WATER FOR THE REQUIRED TIME. THIS IS THE FINAL WASH IN WATER.

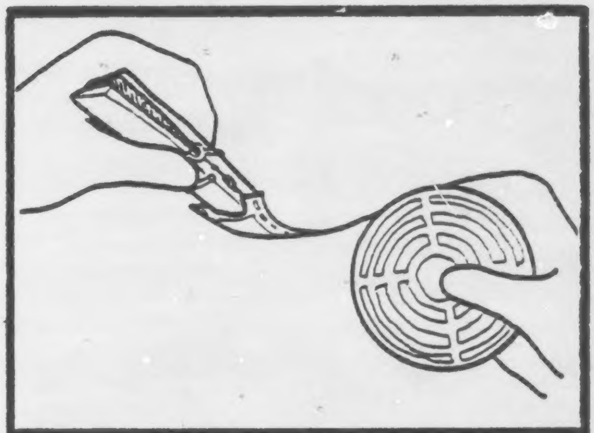


JOB STEPS

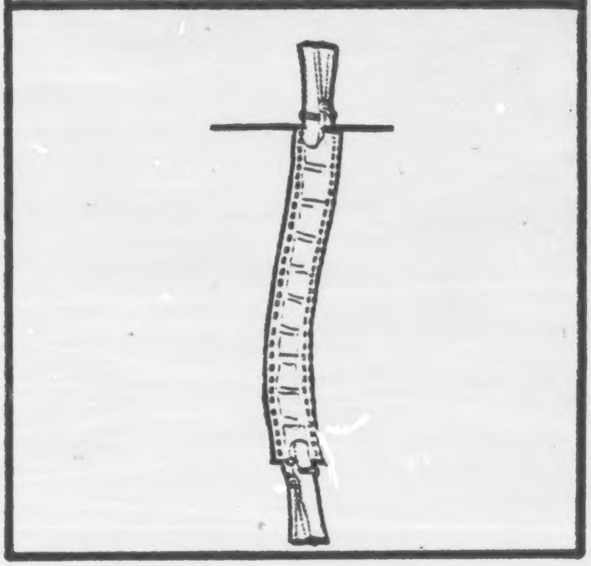
30. REMOVE THE REEL FROM THE RUNNING WATER RINSE AND CONTINUE IN ONE OF TWO WAYS:

IF PHOTO-FLO IS NOT USED:

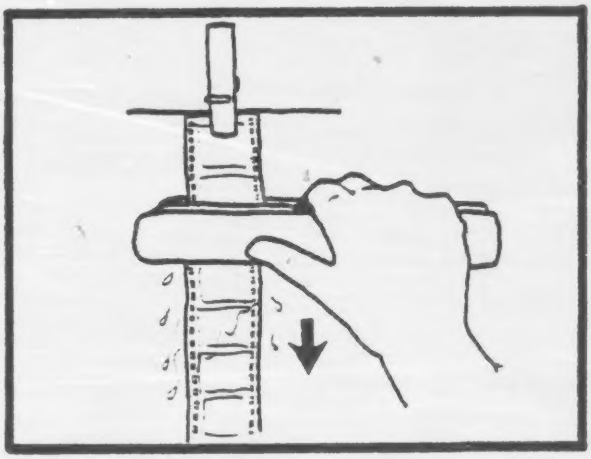
A. ATTACH A FILM CLIP TO THE END OF THE FILM.
B. HOLDING THE CLIP, GENTLY PULL THE FILM FROM THE REEL.



C. USING ANOTHER FILM CLIP ON THE OTHER END OF THE FILM, HANG THE FILM UP TO DRY.



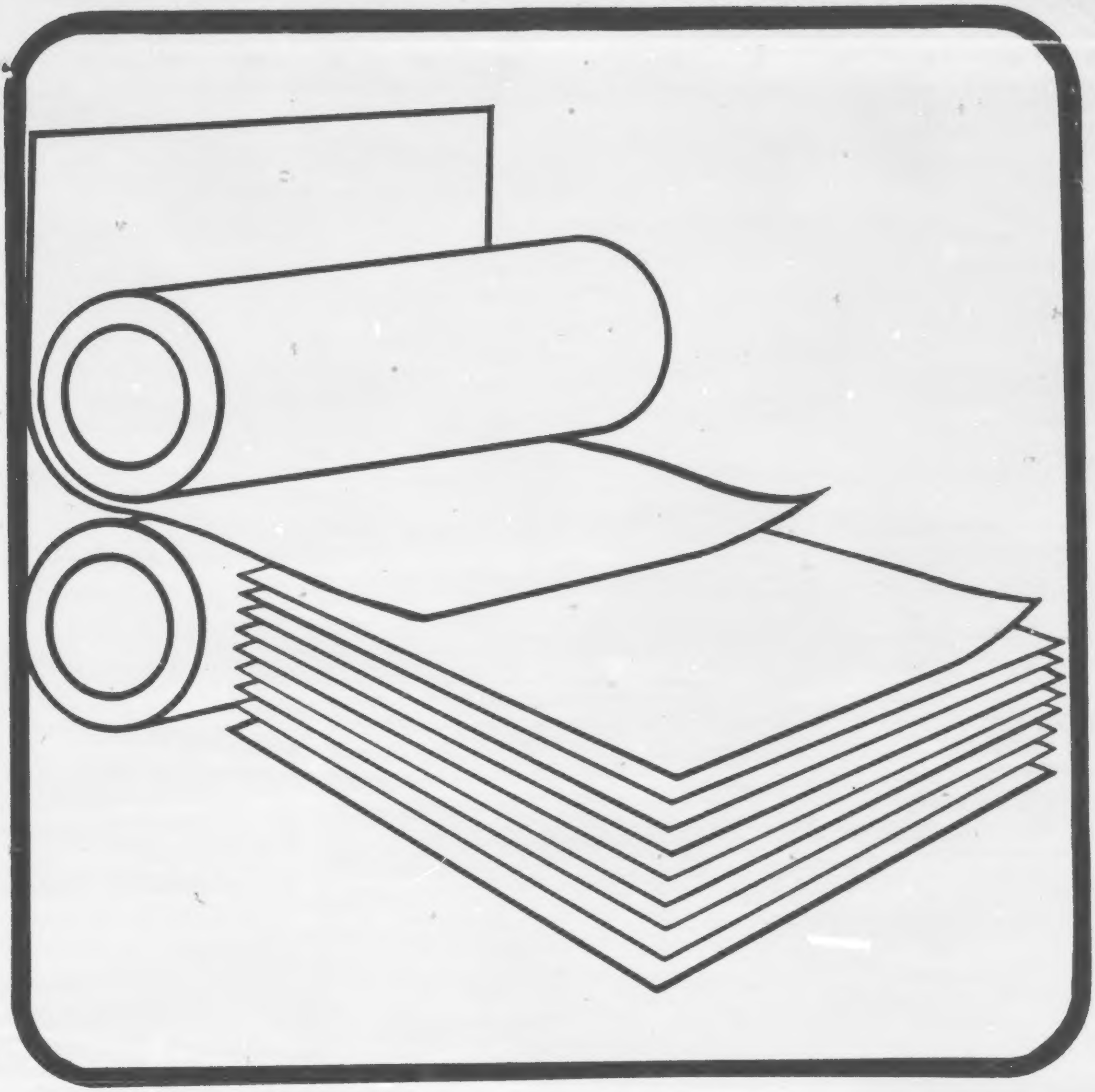
D. WITH A SPECIAL SQUEEGEE, WIPE THE FILM VERY GENTLY FROM TOP TO BOTTOM TO REMOVE EXCESS WATER.



IF PHOTO-FLO IS USED:

DO THE SAME AS ABOVE BUT DO NOT WIPE THE FILM AFTER YOU HAVE HUNG IT UP TO DRY.

31. CLEAN UP YOUR WORK AREA. BE SURE TO RINSE OFF YOUR EQUIPMENT AND WIPE IT DRY.



graphics

unit: PHOTOGRAPHY

capital area career center

module: 1401 16 005
1401 16 005 3 date: FEBRUARY 1978 level: III

skill title: CONTACT PRINTING AND PAPER PROCESSING

developed & written by: GLEN PETTIT

visuals by: BRUCE BENNETT

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO MAKE A PRINT, USING YOUR NEGATIVE AND THE CONTACT PRINTER.

AND IN ORDER TO DO THIS YOU WILL NEED:

FILMSTRIP/TAPE: "CONTACT PRINTING"

35MM NEGATIVES

CONTACT PRINTER

CHEMICALS (DEVELOPER, STOP BATH, FIXER AND WATER)

TRAYS, TONGS, SQUEEGEE AND CLOTH TOWEL

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN MAKE A CONTACT PRINT PROOF SHEET THAT IS PROPERLY EXPOSED AND PROCESSED TO GIVE SOLID BLACKS AND PURE WHITES. THERE WILL BE NO STAINS, SPOTS OR WRINKLES ON THE PRINT AND ALL NEGATIVE FRAMES WILL SHOW WHAT A NORMAL PRINT WOULD LOOK LIKE.

A TAPE OF THIS MODULE IS AVAILABLE.

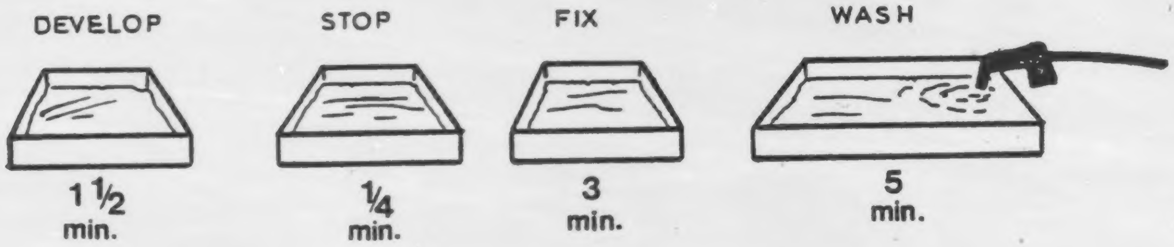
INFORMATION

THE REASON FOR A CONTACT PRINT PROOF IS TO SHOW YOU WHAT YOUR 35MM NEGATIVE FRAMES ACTUALLY LOOK LIKE. EACH CONTACT PRINT PROOF FRAME IS LIKE A SMALL PRINT OR PICTURE. THE PROOF IS USED TO:

1) SELECT - WHICH PICTURES YOU WANT TO PRINT.
2) CROP - WHAT PART OF THE PICTURE YOU WANT TO ENLARGE OR LEAVE OUT WHEN IT IS PRINTED.
3) INSPECT - TO SEE IF THE NEGATIVE FRAME IS OVER OR UNDEREXPOSED, HAS SPOTS OR SCRATCHES ON IT OR HAS BEEN PROPERLY DEVELOPED.

ALWAYS MAKE A CONTACT PRINT PROOF SHEET OF EVERY ROLL OF FILM YOU TAKE. AVOID LOOKING AT OR TOUCHING THE NEGATIVES BECAUSE THEY ARE DAMAGED SO EASILY. USE THE PROOF SHEET TO INSPECT AND SHOW OTHERS WHAT IS ON THE ROLL.

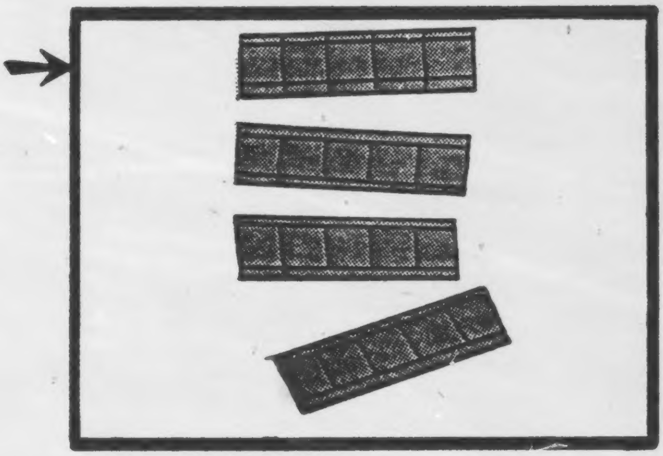
TO PROCESS PRINT PAPER (KODAK POLYCONTRAST R C PAPER, 8 X 10") WE USE 3 TRAYS PLUS RUNNING WATER.


DEVELOP
1 1/2 min.
STOP
1/4 min.
FIX
3 min.
WASH
5 min.

THE CONTACT PRINT IS MADE BY EXPOSING THROUGH NEGATIVES TO THE PRINT PAPER, THEN PROCESSING THE PAPER IN THE THREE CHEMICALS. WHERE THE LIGHT EXPOSES THE PAPER, IT TURNS BLACK IN THE DEVELOPER. ALL EXPOSURE AND PROCESSING MUST BE DONE IN THE DARKROOM UNDER SAFE LIGHTS.

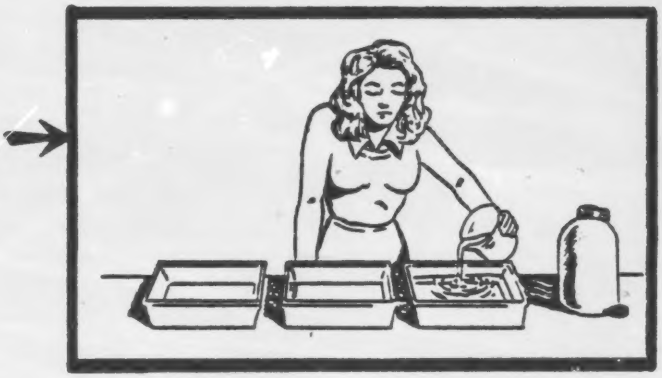
JOB STEPS

1. VIEW THE FILMSTRIP/TAPE: "CONTACT PRINTING" (17 MINUTES) FOR THIS MODULE.



2. TAKE THE LONG STRIP OF NEGATIVE THAT YOU PROCESSED FOR MODULE 1401 16 004 OR MODULE 1401 16 004 3 AND CUT THESE INTO FOUR STRIPS OF 5 FRAMES EACH.

3. IN THE DARKROOM, PREPARE YOUR CHEMICALS: FIRST GET THE THREE 8 X 10" PROCESSING TRAYS AND WASH THESE OUT WITH A SPONGE AND WATER.

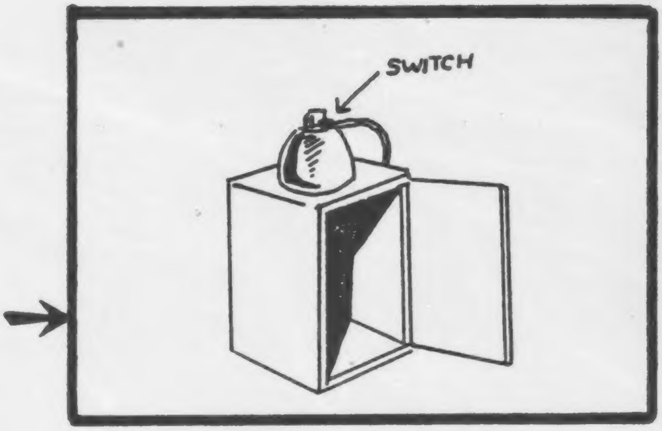


A-MEASURE OUT 100ML OF DEKTOL DEVELOPER PLUS 200ML OF WATER AT 20°C AND CAREFULLY POUR THESE IN THE RED TRAY LABELED DEVELOPER.

B-FIND A GRADUATE OF "USED" STOP BATH AND POUR IN AT LEAST 300ML IN THE WHITE TRAY MARKED STOP BATH.

C-FIND A GRADUATE OF "USED" FIXER AND POUR IN AT LEAST 300ML IN THE TRAY MARKED FIXER.

D-IN THE LARGE WASH SINK, GENTLY TURN ON THE WATER SO IT IS RUNNING.

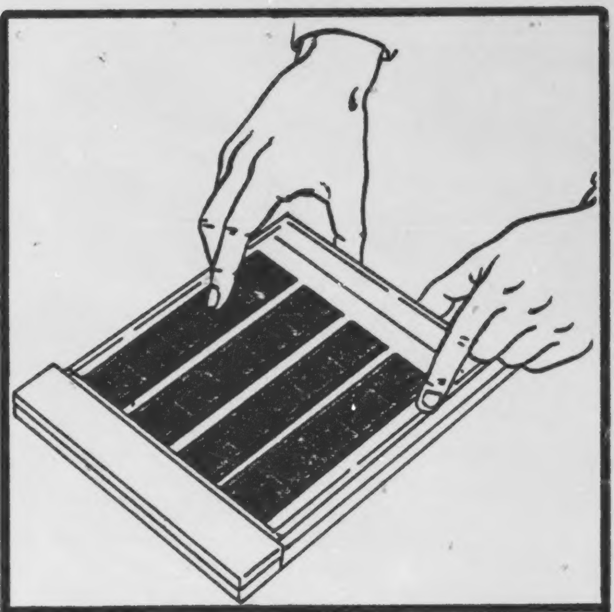


4. FIND THE CONTACT PRINTER EXPOSURE UNIT. CHECK TO SEE HOW THE SWITCH WORKS AND WHAT THE EXPOSURE TIME IS. BE SURE THE COUNTER AREA IS CLEAN AND DRY. TURN OFF THE WHITE LIGHTS AND USE ONLY THE DARKROOM SAFELIGHTS NOW.

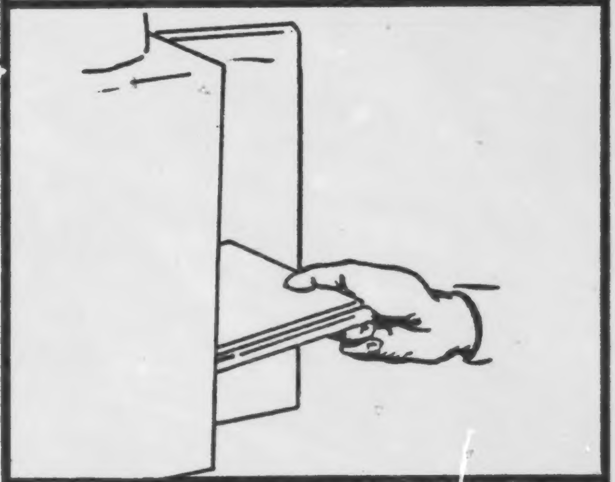
JOB STEPS

5. GET A CONTACT PROOF PRINTER (CLEAN THE GLASS IF NEEDED) AND PLACE ONE 8 X 10" SHEET OF POLYCONTRAST PRINT PAPER IN IT WITH THE EMULSION UP (THE SIDE THAT CURLS UP).

6. PLACE ALL FOUR OF YOUR NEGATIVE STRIPS ON THIS PRINT PAPER SO THE NEGATIVE EMULSION IS DOWN (THE CURL IS DOWN, OR CURL TO CURL, EMULSION TO EMULSION). WHEN THEY ARE STRAIGHT, SLOWLY CLOSE THE GLASS.



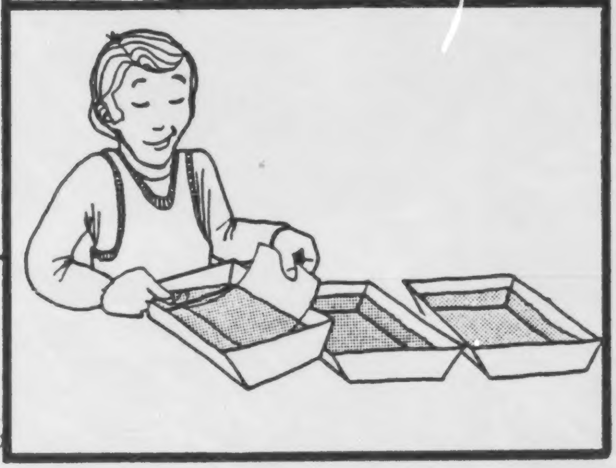
7. PLACE THE CONTACT PROOF PRINTER WITH THE PAPER AND NEGATIVES INTO THE CONTACT PRINTER EXPOSURE UNIT, CLOSE THE DOOR AND EXPOSE (5 SECONDS).



8. AFTER EXPOSURE, REMOVE THE PRINT PAPER AND PLACE IT IN THE DEVELOPER TRAY FOR EXACTLY 1 1/2 MINUTES. GET IT UNDER THE DEVELOPER QUICKLY, ROCK THE TRAY ONCE EVERY 5 SECONDS. USE THE TONGS TO REMOVE IT AFTER EXACTLY 1 1/2 MINUTES.

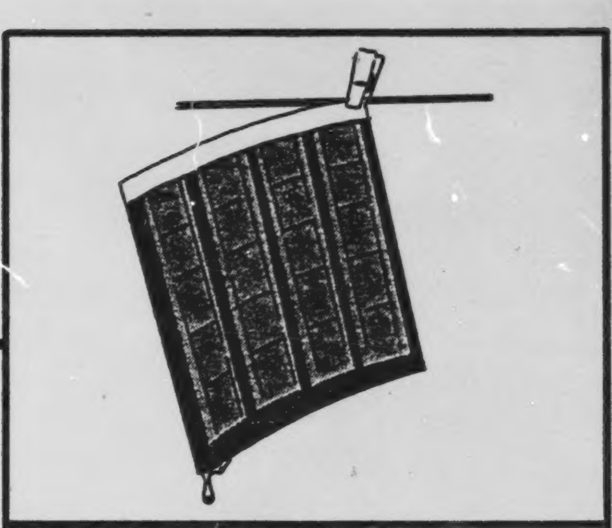
9. PLACE THE DEVELOPER PRINT INTO THE STOP BATH FOR 1/4 MINUTE. USE THE 2ND PAIR OF TONGS TO REMOVE IT.

10. PLACE THE PRINT INTO THE FIXER FOR 3 TO 5 MINUTES (DO NOT LET ANY FIXER GET ON YOUR HANDS). USE THE TONGS TO REMOVE IT.

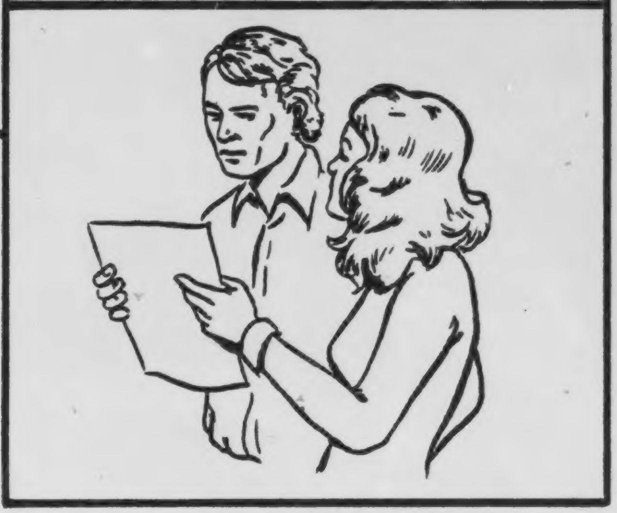


JOB STEPS

11. PLACE THE PROCESSED PRINT INTO THE RUNNING WATER FOR 5-10 MINUTES.



12. SQUEEGEE THE WET PRINT MANY TIMES AND LET DRY IN THE AIR FOR 10 MINUTES. YOU CAN LOOK AT THE CONTACT PRINT PROOF NOW TO SEE HOW YOUR PICTURES WILL PRINT.



13. THE AREA AROUND THE NEGATIVES SHOULD BE SOLID BLACK AND YOUR PICTURES SHOULD LOOK JUST LIKE THE PHOTOGRAPHS WILL. SHOW YOUR CONTACT PRINT PROOF TO YOUR INSTRUCTOR FOR EVALUATION.

14. CAREFULLY PUT YOUR NEGATIVES AWAY INTO A SPECIAL NEGATIVE SLEEVE. PUT THE GLASS PROOF PRINTER AWAY. POUR THE DEVELOPER DOWN THE DRAIN. RETURN THE USED STOP BATH AND USED FIXER TO THEIR CORRECT STORAGE GRADUATES. WASH OUT THE TRAYS AND PUT THEM AWAY.

graphics

unit: PHOTOGRAPHY (CONTINUOUS TONE)

capital area career center

1401 16 006

module: 1401 16 006 3 **date:** 7/77 **level:**

skill title: BASIC ENLARGER USE: DODGING, BURNING AND EXPOSURE TESTS

developed & written by: JERRY REIMER

visuals by: DAVE BROWN

WORD GUIDE

COMPENSATE - MAKE CHANGES TO BETTER SOMETHING

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO USE AN ENLARGER TO MAKE PHOTOGRAPHIC PRINTS.
2. HOW TO COMPENSATE IN PRINTING FOR AN IMPERFECT NEGATIVE.
3. HOW TO FIND THE CORRECT EXPOSURE TO PRINT YOUR NEGATIVE.

IN ORDER TO DO THIS YOU WILL NEED:

DEVELOPER
STOP
FIX
WATER WASH
SQUEEGE
TOWEL
PRINT PAPER
YOUR NEGATIVES

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN MAKE THE NECESSARY CORRECTIONS WHILE PRINTING TO GET A GOOD FINISHED PRINT.

WORD GUIDE

COMPELEMENT - BEST SERVE; BALANCE NICELY WITH

INFORMATION

LOGICALLY, THE FIRST STEP IN PRINTING IS SELECTING THE TYPE OF PRINT PAPER WHICH WILL COMPLEMENT YOUR NEGATIVES. AS A BEGINNING PRINTER, YOU MAY THINK THAT SIZE IS THE IMPORTANT ASPECT OF PRINT PAPER. IN FACT, KODAK ALONG MAKES 22 DIFFERENT TYPES OF PAPER AND EACH TYPE OF PAPER HAS SEVERAL OTHER DIFFERENCES. THESE DIFFERENCES INCLUDE: TEXTURE, BRILLIANCE, STOCK TINT, WEIGHT, AND CONTRAST.

*TEXTURE, WHICH IS THE SURFACE TRAIT, COMES IN FIVE DIFFERENT STYLES: SMOOTH, FINE-GRAINED, TWEED, SILK, AND TAPESTRY.

*BRILLIANCE, WHICH IS THE DEGREE OF REFLECTION FROM THE SURFACE OF THE PAPER, IS CLASSIFIED: GLOSSY, HIGH-LUSTRE, LUSTRE, OR MATTE.

*THERE ARE ALSO THREE STOCK TINTS: WARM-WHITE, CREAM-WHITE, AND WHITE. YOU CAN ALSO SELECT BETWEEN SINGLE-WEIGHT, DOUBLE-WEIGHT, LIGHT-WEIGHT, AND MEDIUM-WEIGHT (WEIGHT REFERS TO THE PAPER THICKNESS).

*THE LAST PRINT PAPER PROPERTY IS CONTRAST. CONTRAST IS THE DIFFERENCE BETWEEN THE LIGHT AND DARK AREAS. SOME PAPERS HAVE "BUILT-IN" DEGREES OF CONTRAST. FOR EXAMPLE: CERTAIN KODAK PAPERS HAVE LOW CONTRAST, WHILE OTHER PAPERS MAY HAVE HIGH OR MID-RANGE CONTRAST. THERE ARE ALSO PAPERS WITH VARIABLE CONTRASTS. INSTEAD OF USING SEVERAL DIFFERENT GRADES OF CONTRAST PAPER, USE VARIABLE CONTRAST PAPER AND SIMPLY CHANGE A CONTRAST FILTER (WHICH IS PLACED UNDER THE ENLARGER LENS) TO GET THE DEGREE OF CONTRAST DESIRED.

YOU MAY BE THINKING, HOW AM I EVER GOING TO KNOW ALL THIS? TAKE HEART, SOME OF THOSE 22 DIFFERENT TYPES OF PAPER ONLY HAVE MINIMUM DIFFERENCES TO CHOOSE FROM. FOR EXAMPLE, KODAK 'PORTRAIT PROOF' PAPER COMES IN ONLY ONE TINT, ONE WEIGHT, ONE TEXTURE, AND ONE BRILLIANCE. REMEMBER, THE SCHOOL USES PRIMARILY ONE TYPE OF PAPER. OUTSIDE SCHOOL, YOU HAVE CHOICES, IF YOU WANT THEM.

JUST AS IN NEGATIVE DEVELOPERS, PRINT DEVELOPERS ARE CHOSEN WITH A SPECIFIC PURPOSE IN MIND. PRINT DEVELOPERS VARY IN TERMS OF CONTRAST AND TONE. TONE IS THE COLOR OF THE PRINT AFTER DEVELOPMENT (THE COLORS ARE LIMITED THOUGH; USUALLY WARM SHADES OF BROWN TO THE COLDER SHADES OF BLUE). IN PAPER, THERE IS THE STOCK TINT (WARM-WHITE, CREAM-WHITE, AND WHITE) WHILE IN DEVELOPERS, THE TONE IS BROUGHT OUT IN THE PRINT.

AGAIN, THE SCHOOL WILL PROBABLY USE ONLY ONE OR TWO DIFFERENT TYPES OF PRINT DEVELOPER, BUT KNOWING ABOUT THE VARIOUS CHOICES COULD MAKE A DIFFERENCE TO YOU LATER.

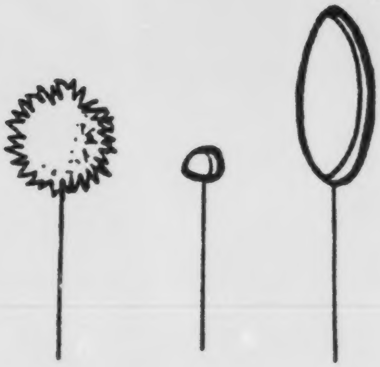
WORD GUIDE

DEFICIENT - LACKING SOMETHING

INFORMATION

BEFORE GOING ON TO THE JOB STEPS, PLEASE WATCH THE FILMSTRIPS TITLED: "ENLARGING, PART 1" AND "ENLARGING PART 2". THERE IS SOME VERY USEFUL INFORMATION IN THESE FILMSTRIPS WHICH CAN BE APPLIED TO YOUR ENLARGING TECHNIQUES.

MANY PRINTS NEED EXTRA CARE TO IMPROVE THEIR QUALITY. SOME PRINTS HAVE THE RIGHT EXPOSURE OVER MOST OF THE SUBJECT, BUT MISERABLE EXPOSURE OVER THE REST. TO CORRECT THIS PROBLEM, YOU MUST EITHER "DODGE" OR "BURN". DODGING AND BURNING ARE SIMPLY SUBTRACTING OR ADDING LIGHT TO THE INITIAL EXPOSURE. ONCE YOU'VE MADE A PRINT, YOU NOTICE EVERYTHING LOOKS GOOD EXCEPT FOR A SMALL DARK CORNER (OVEREXPOSED AREA). MAKE ANOTHER PRINT, EXCEPT THIS TIME USE YOUR HAND TO BLOCK SOME OF THE LIGHT (THIS IS DODGING) AS THE PRINT IS BEING EXPOSED. THE FINGERS OR HANDS SHOULD BE USED FOR DODGING ONLY WHEN THE AREAS TO BE LIGHTENED ARE AT THE EDGES OF THE PRINT. FOR AREAS WITHIN THE PRINT, SIMPLE OBJECTS, SUCH AS THOSE PICTURED, CAN BE EASILY CONSTRUCTED. ONLY DODGE THE AREA OF OVER-EXPOSURE. IT'S GOING TO TAKE SOME PRACTICE, BUT AFTER SEVERAL TESTS, YOU'LL BE ABLE TO NOTICE HOW MUCH LIGHT IS NEEDED. DODGING, THEN, IS BLOCKING AREAS OF THE PRINT WHILE MAKING THE INITIAL EXPOSURE. "BURNING" IS ADDING MORE LIGHT TO AREAS AFTER THE INITIAL EXPOSURE. THE INITIAL EXPOSURE SHOULD BE MADE FOR THE MAJORITY OF THE PRINT. ONCE YOU FIND A SMALL AREA UNDEREXPOSED, CUT OUT A SIMILAR SHAPE FROM A PIECE OF CARDBOARD. AFTER THE INITIAL EXPOSURE, HOLD THE CARDBOARD UNDER THE ENLARGING LENS (SOMEWHERE BETWEEN THE LENS AND EASEL) AND EXPOSE FOR THE DEFICIENT AREA. THE PROCESS ISN'T TOO DIFFICULT BUT MAY TAKE SOME PRACTICE.

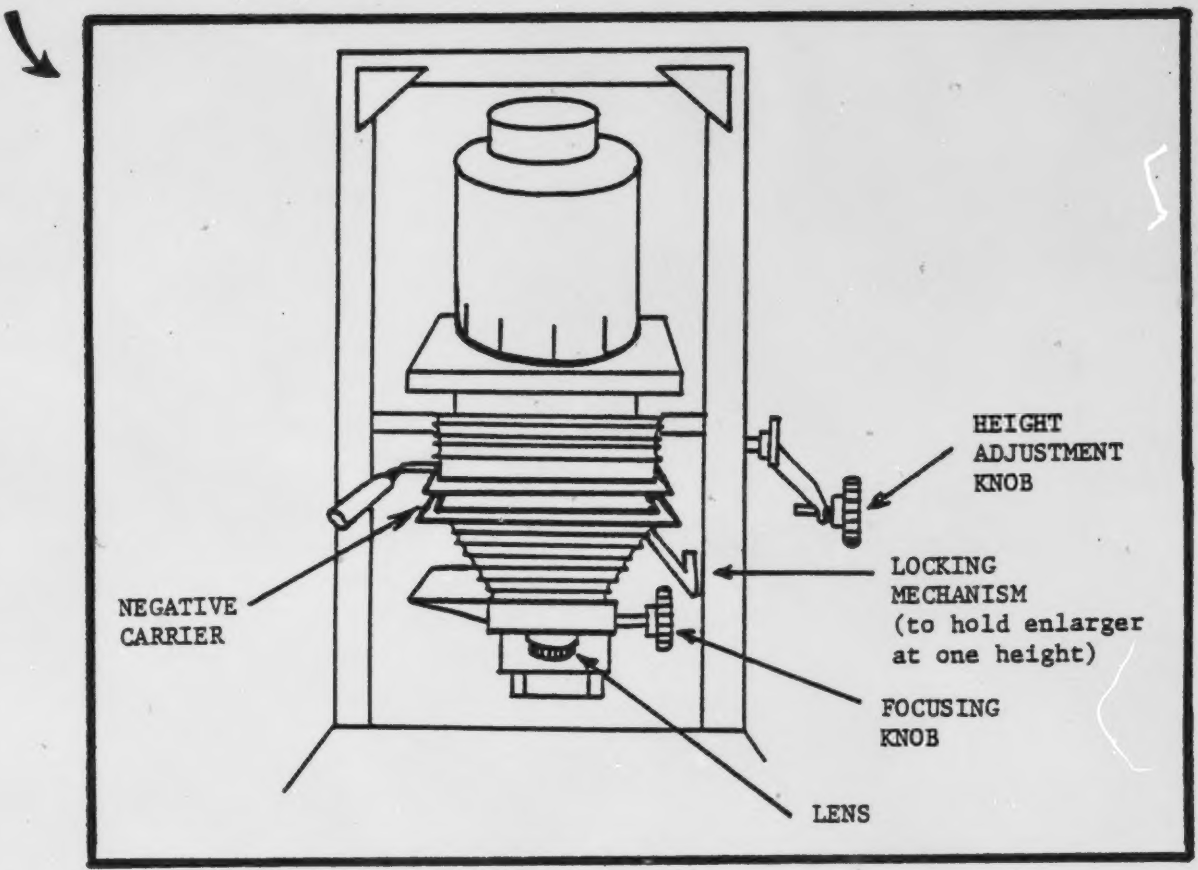


EXAMPLES OF DODGING TOOLS

JOB STEPS

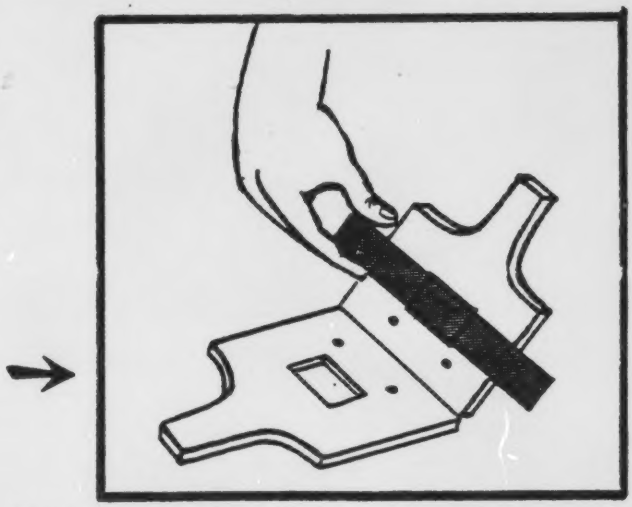
1. LOCATE YOUR ASSIGNED ENLARGER.

2. LOOK FOR THE FOLLOWING PARTS: NEGATIVE CARRIER, LENS, FOCUSING KNOB, AND HEIGHT ADJUSTOR.


HEIGHT ADJUSTMENT KNOB
LOCKING MECHANISM (to hold enlarger at one height)
NEGATIVE CARRIER
FOCUSING KNOB
LENS

3. CHECK THE LENS TO MAKE SURE IT HAS NO DUST OR DIRT ON THE ELEMENTS. AS YOU LOOK AT THE LENS, NOTICE THE APERTURE RING. THE APERTURE ON THE ENLARGER LENS WORKS THE SAME AS THE CAMERA APERTURE: IT CONTROLS THE AMOUNT OF LIGHT.

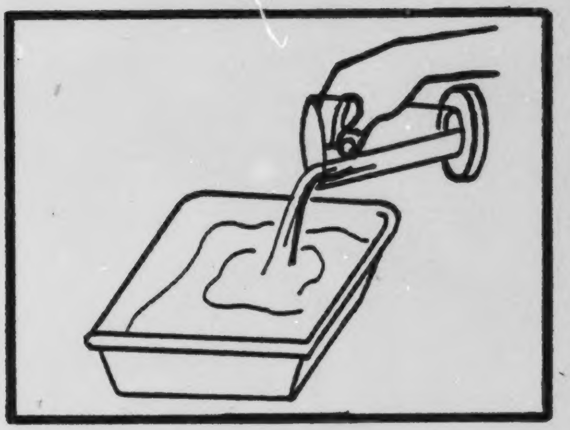
4. DUST OFF YOUR NEGATIVE AND PLACE IT IN THE NEGATIVE CARRIER, EMULSION SIDE OR DULL SIDE DOWN. THEN PLACE THE NEGATIVE CARRIER IN THE ENLARGER.



JOB STEPS

5. POUR THE PRINT DEVELOPER, STOP AND FIX INTO SEPARATE TRAYS. →

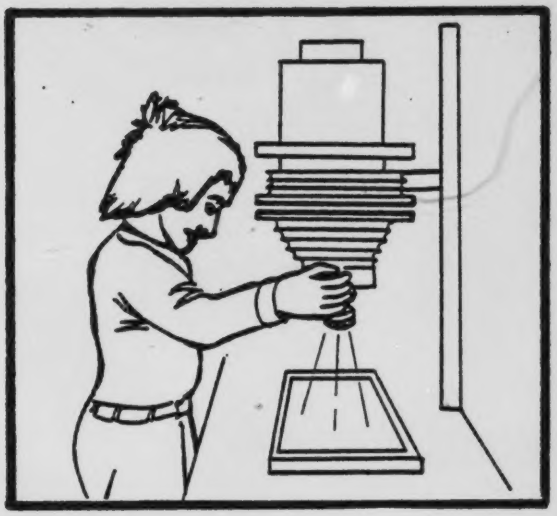
6. TURN ON THE SAFELIGHTS, THEN TURN OUT THE ROOM LIGHTS.



7. TURN ON THE ENLARGER AND ROTATE THE APERTURE TO THE LARGEST OPENING. RAISE OR LOWER THE ENLARGER TO GET THE DESIRED IMAGE SIZE. →

8. FOCUS THE IMAGE ON THE EASEL (WHICH HOLDS PRINT PAPER UNDER THE ENLARGER). THE EASEL DOES NOT REFLECT LIGHT WELL SO IT MAY BE BETTER TO FOCUS ON THE BACK OF A SHEET OF PRINT PAPER PLACED IN THE EASEL). →

9. AFTER FOCUSING, ROTATE THE APERTURE RING TO ONE OF THE MIDDLE SETTINGS (5.6 OR 8). →



10. SINCE THE CAPITAL AREA CAREER CENTER USES PRIMARILY A VARIABLE CONTRAST PAPER, YOU MUST ADJUST THE CONTRAST BY USING DIFFERENT CONTRAST FILTERS. FOR THE FIRST TEST PRINT, USE A MID-RANGE FILTER.

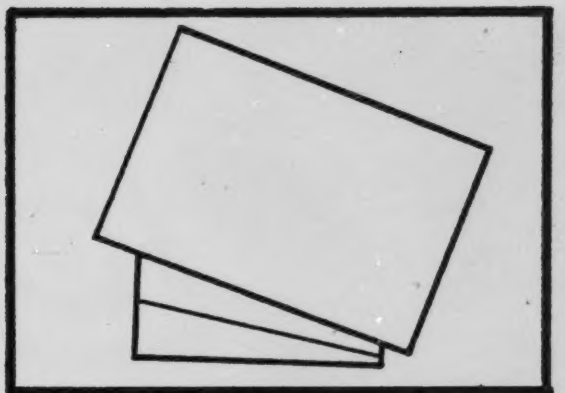
11. REPLACE THE SHEET IN THE EASEL YOU USED FOR FOCUSING WITH AN UNEXPOSED SHEET OF PRINT PAPER.

12. COVER THE BOX OF PRINT PAPERS.

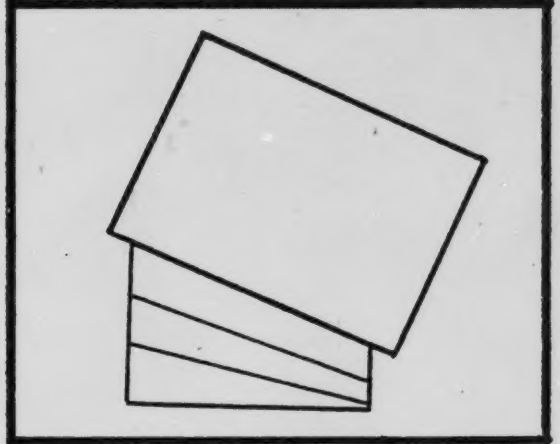
13. LAY THE SHEET (USED FOR FOCUSING) OVER 4/5THS OF THE EXPOSED SHEET. EXPOSE FOR TWO SECONDS.

JOB STEPS

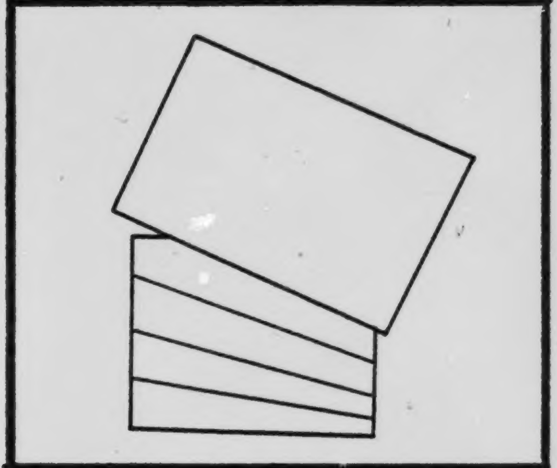
14. MOVE THE COVER SHEET SO IT ONLY COVERS 3/5THS. EXPOSE FOR ANOTHER TWO SECONDS. THIS AMOUNTS TO FOUR SECONDS FOR THE FIRST AREA.



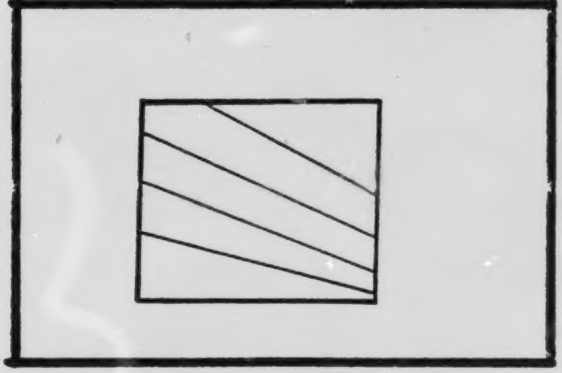
15. MOVE THE COVER SHEET SO IT ONLY COVERS 2/5THS OF THE PAPER. EXPOSE FOR ANOTHER TWO SECONDS.

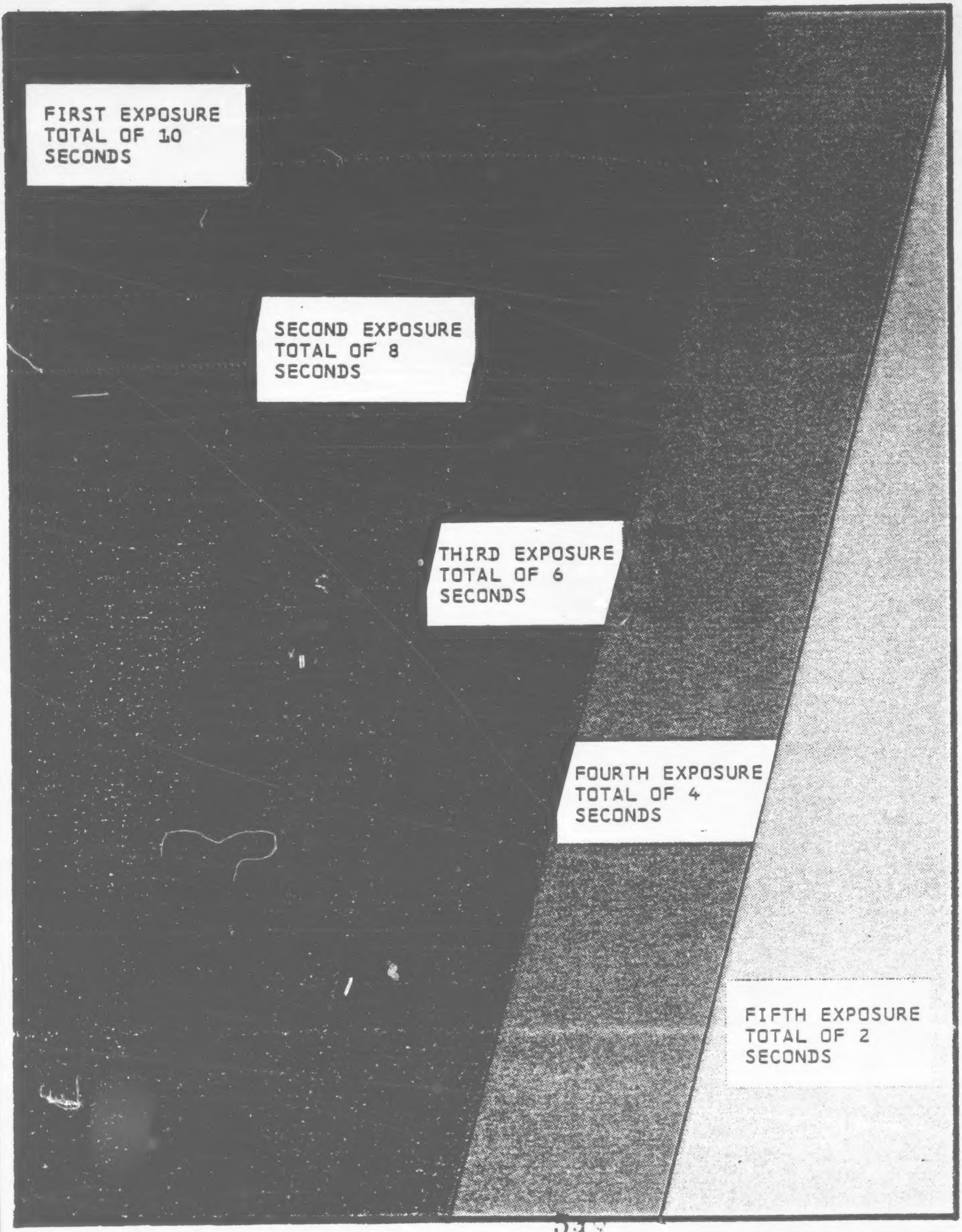


16. MOVE THE COVER SHEET SO IT COVERS 1/5 OF THE PAPER. EXPOSE FOR TWO MORE SECONDS.



17. REMOVE THE COVER SHEET ENTIRELY AND EXPOSE AN ADDITIONAL TWO SECONDS. THE RESULT WILL BE FIVE DIFFERENT AREAS WITH EXPOSURES OF 2, 4, 6, 8, AND 10 SECONDS.

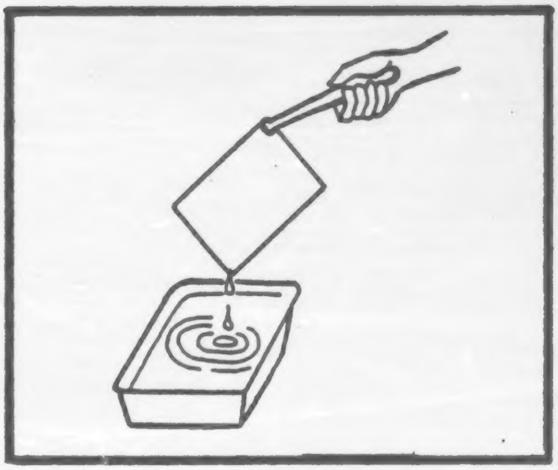



FIRST EXPOSURE
TOTAL OF 10
SECONDS
SECOND EXPOSURE
TOTAL OF 8
SECONDS
THIRD EXPOSURE
TOTAL OF 6
SECONDS
FOURTH EXPOSURE
TOTAL OF 4
SECONDS
FIFTH EXPOSURE
TOTAL OF 2
SECONDS

JOB STEPS

18. USING THE TONGS, SLIP THE EXPOSED PAPER INTO THE DEVELOPER. MAKE SURE THE PAPER IS COMPLETELY SUBMERGED. FOLLOW YOUR INSTRUCTOR'S RECOMMENDATIONS FOR AGITATION AND DEVELOPMENT.

19. WITH 10 - 15 SECONDS REMAINING IN DEVELOPMENT, LIFT THE PAPER FROM THE TRAY. HOLD THE PRINT OVER THE DEVELOPER TRAY AND ALLOW TO DRAIN.



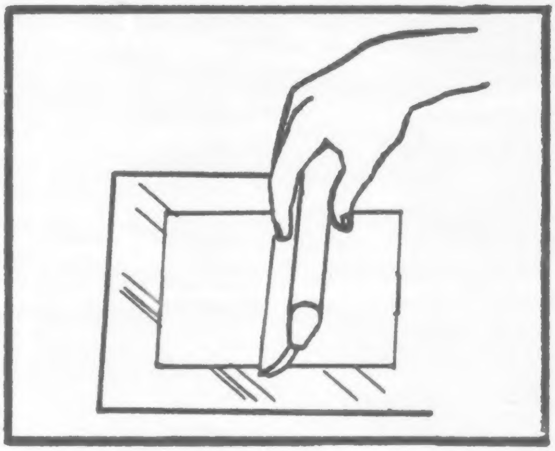
20. PLACE THE PRINT IN THE STOP SOLUTION. PROCESS FOR THE SUGGESTED TIMES. WITH 10 - 15 SECONDS REMAINING, DRAIN THE PRINT.

21. PLACE THE PRINT IN THE FIX SOLUTION. FOLLOW INSTRUCTIONS FOR AGITATION AND FIX PROCEDURES.

22. REMOVE THE PRINT AFTER THE PRINTS ARE FIXED AND PLACE IN THE WATER WASH.

23. IF YOU USE RC OR RESIN-COATED PAPER, WASH FOR THE TIME SUGGESTED (WHEN USING RC PAPER). IF YOU DON'T USE RC PAPER, WASH FOR THE LENGTH OF TIME ADVISED AND THEN PROCEED TO HYPO-CLEARING AGENT.

	RC PAPER	REGULAR PAPER
1.	DEVELOPER	DEVELOPER
2.	STOP	STOP
3.	FIX	FIX
4.	WASH	WASH
5.	SQUEEGE	HYPO CLEARING AGENT
6.	DRY	WASH
7.		SQUEEGE
8.		DRY



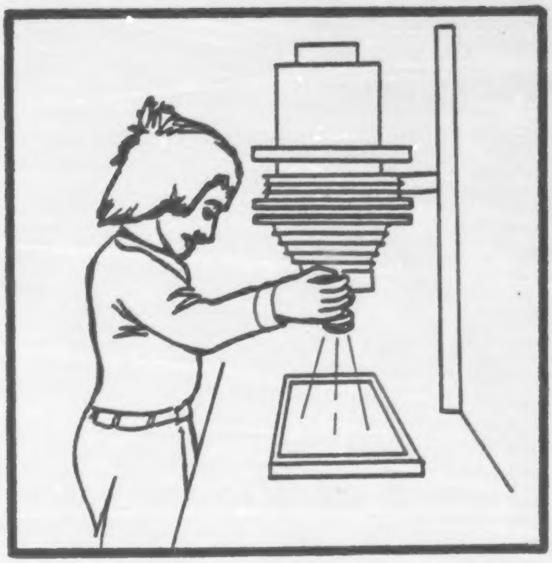
24. AFTER WASHING, RC PAPERS ARE SQUEEGEED AND THEN PUT IN THE PRINT DRYER.

25. PAPERS OTHER THAN RC ARE WASHED AFTER THE HYPO CLEARING AGENT, THEN SQUEEGEED AND DRIED.

CRITERIA - GUIDELINES OR STANDARDS

26. AFTER THE PRINT HAS BEEN DRIED, EXAMINE IT CLOSELY. THE FIRST THINGS TO LOOK FOR ARE UNEVEN BORDERS AND DUST SPOTS. THEN CHECK THE PRINT TO SEE IF IT WAS IN FOCUS. NEXT, WHICH EXPOSURE IS THE BEST OF THE FIVE? AFTER PICKING ONE OF THE EXPOSURES, CHECK THE CONTRAST; IS IT GOOD? TO INCREASE CONTRAST, USE A HIGHER NUMBER FILTER. TO LOWER CONTRAST, DO THE OPPOSITE.

27. MAKE THE NECESSARY CHANGES AND THEN PRINT ANOTHER COPY. →



28. PROCESS THE PRINT THE SAME AS BEFORE.

29. EVALUATE THE PRINT USING THE CRITERIA IN STEP 26.

30. PROCEDE PRINTING THE REST OF THE NEGATIVES. AFTER EACH TEST PRINT, GIVE IT A THOROUGH EXAMINATION AND LOOK FOR THE SAME THINGS AS YOU DID BEFORE.

graphics

unit: PHOTOGRAPHY (CONTINOUS TONE)

capital area career center

module: 1401 16 007 3 date: 8/77 level: _____

skill title: CROPPING, MOUNTING, AND DISPLAY OF PRINTS

developed & written by: JERRY REIMER

visuals by: GLEN COOLEY

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. HOW TO CROP A PRINT TO ELIMINATE UNWANTED PARTS OF A PHOTOGRAPH.
2. HOW TO MOUNT AND DISPLAY THE FINISHED PRINT.

IN ORDER TO DO THIS YOU WILL NEED:

A PRINT WHICH YOU HAVE PROCESSED

MATBOARD OR POSTERBOARD

DRY MOUNT TISSUE

WE WILL KNOW YOU CAN DO IT WHEN:

YOU SHOW THE INSTRUCTOR A PRINT WHICH YOU HAVE CROPPED, MOUNTED, AND DISPLAYED.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

A PRINT IS MOST ATTRACTIVE WHEN IT IS MOUNTED FOR DISPLAY ON A SUITABLE MOUNTING BOARD. THE PURPOSE OF THIS MODULE IS TO GIVE YOU THE INFORMATION NECESSARY TO CROP AND MOUNT THE PRINT SO IT LOOKS THE BEST.

THERE ARE TWO WAYS TO CROP A PHOTOGRAPH. THE FIRST AND EASIEST: WHEN PRINTING, YOU CAN RAISE OR LOWER THE ENLARGER TO GET THE DESIRED IMAGE SIZE. YOU CAN ALSO ADJUST THE EASEL TO COMPOSE THE NEGATIVE IN A PLEASING ARRANGEMENT OF SUBJECT MATTER.

THE SECOND WAY TO CROP A PHOTOGRAPH (THE ONE WE WILL DEAL WITH HERE): CUT THE PRINT TO INCREASE OR DECREASE IMAGE SIZE (IN RELATIONSHIP TO THE FINAL PRINT SIZE). CROPPING AFTER THE PRINT IS PROCESSED ALSO MEANS THAT THE PRINT SIZE CAN BE ALTERED TO SOMETHING OTHER THAN 4 X 5, 5 X 7, 8 X 10, ETC. THIS HAS ADVANTAGES AND DISADVANTAGES. FOR EXAMPLE: IF YOU ARE TO FRAME A PHOTO IN A STANDARD SIZE FRAME (4 X 5, 5 X 7, 8 X 10, ETC), THE PRINT WILL NOT FILL THE FRAME. ON THE OTHER HAND, IF YOU HAVE A LANDSCAPE, IT MAY COMPLIMENT YOUR PHOTO IF IT IS CUT TO EMPHASIZE THE HORIZONTAL FLOW OF THE LAND.

THE BEST WAY TO MOUNT A PHOTO IS TO ATTACH IT TO A STIFF BACKING. WITH A STIFF BACKING, THE PRINT CAN BE HUNG OR DISPLAYED MORE EASILY. IF THE MOUNTING BOARD (USUALLY MATBOARD) IS LARGER THAN THE PRINT, THE EXCESS FORMS A FRAME WHICH CAN DRAW ATTENTION TO THE PICTURE.

DISPLAYING A PRINT IS SIMPLY ARRANGING THE IMMEDIATE SURROUNDINGS TO ACCENT THE PRINT. THIS COULD BE ANYTHING FROM THE SIMPLEST TO THE MOST ELABORATE.

PLEASE VIEW THE FILMSTRIP TITLED "PRINT FINISHING". THEN, FOLLOW THE JOB STEPS AND FIND OUT HOW TO PREPARE YOUR FAVORITE PRINTS FOR DISPLAY.

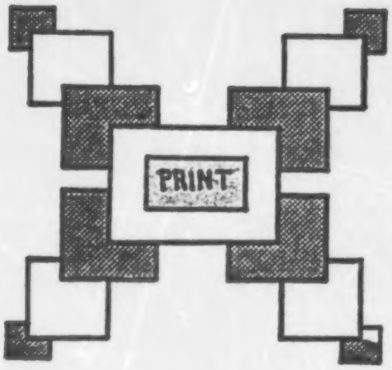
DISPLAY IS THE NEXT STEP. IMAGINATION IS YOUR ONLY LIMIT HERE. THE DISPLAY WINDOW OR BULLETIN BOARD IS THERE TO EMPHASIZE YOUR PRINT, BUT JUST ONE MOUNTED PRINT IN ITSELF MAY NOT BE ENOUGH. YOU NEED TO DRAW THE VIEWER CLOSER TO THE PRINT. THIS IS DONE BY ATTENTION DEVICES. SOME EXAMPLES ARE: COLOR, CONTRAST, DESIGN, AND SIZE. KEEP IN MIND THE PRINT REMAINS THE SAME, BUT THE SURROUNDINGS CAN CHANGE. TRY TO KEEP IT SIMPLE AND DIRECT. THESE ARE A FEW EXAMPLES:

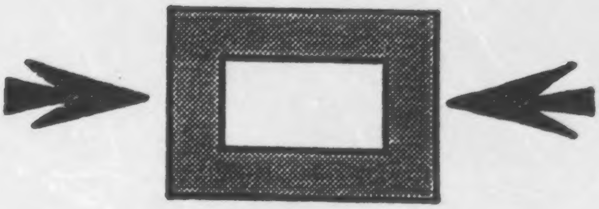
(SEE TOP OF PAGE 4)

WORD GUIDE

ENHANCE - EMPHASIZE, TO MAKE MORE ATTRACTIVE.

INFORMATION





LIGHTING IS ANOTHER CONSIDERATION WHEN DISPLAYING YOUR PRINT. GOOD AND EVEN LIGHTING IS SUGGESTED TO ENHANCE THE PRINT.

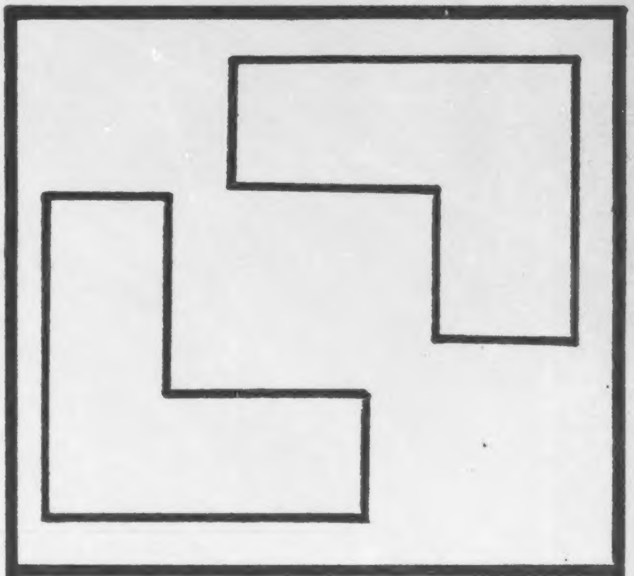
WORD GUIDE

VARIABLE - CHANGEABLE

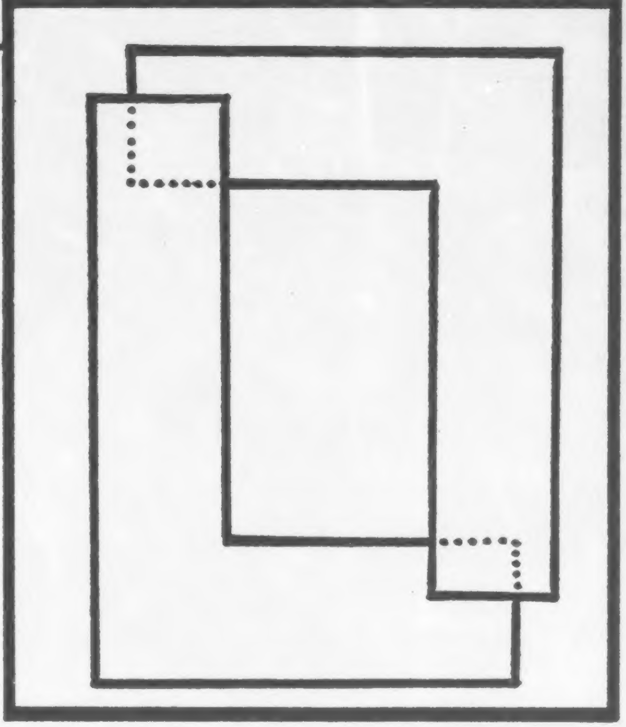
JOB STEPS

1. TAKE ALL EQUIPMENT AND MATERIALS TO YOUR WORK AREA.

2. CUT TWO "L" SHAPED PIECES OF CARDBOARD OR POSTERBOARD.



3. WITH THE PROCESSED TEST PRINT ON A TABLE, ARRANGE THE "L" PIECES ON THE PRINT TO FORM A RECTANGLE OF VARIABLE SIZE. MOVE THE "L" PIECES TO INCLUDE OR LEAVE OFF PORTIONS OF THE SCENE.



   NOTE: IF THE SUBJECT IS A PERSON, ALWAYS LEAVE MORE SPACE IN FRONT OF THE PERSON INSTEAD OF BEHIND. PROBABLY THE BEST ADVICE TO FOLLOW WHEN CROPPING IS TO ELIMINATE SUBJECT MATTER THAT DOES NOT CONTRIBUTE TO THE STORYTELLING QUALITY OF THE PRINT.

4. ONCE YOU HAVE FOUND THE BEST WAY TO CROP, CUT THE PRINT (ON THE PAPER CUTTER) TO THE DESIRED SIZE.

5. MOUNT THE PICTURE ON A PIECE OF MATBOARD (ASK INSTRUCTOR FOR MATERIALS).

   NOTE: IF YOU HAVE A CHOICE IN SELECTING THE MAT COLOR, CHOOSE ONE WHICH ENHANCES THE MOOD OF YOUR PRINT. CONTRAST IS ALSO SOMETHING TO CONSIDER WHEN SELECTING MATBOARD. IF THE PRINT IS PREDOMINATELY DARK, A BRIGHT WHITE MATBOARD COULD BE A BIG PLUS.

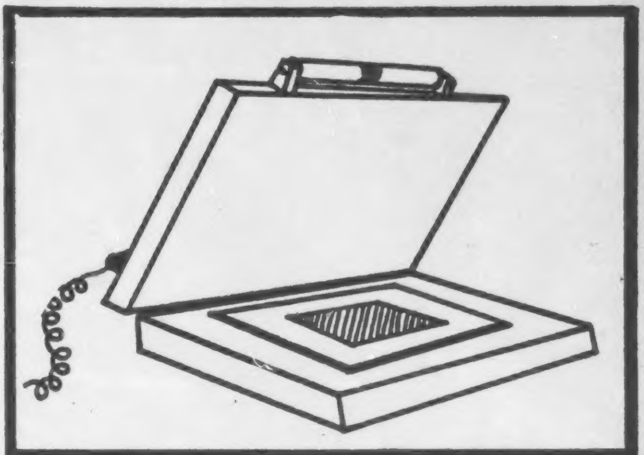
WORD GUIDE

BISECTS - CUTS

ALIGN - PUT IN RIGHT POSITION.

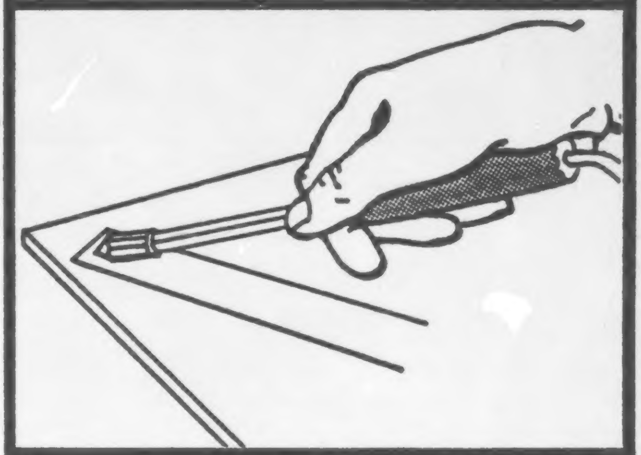
JOB STEPS

6. TURN ON THE TACKING IRON AND THE DRY-MOUNTING PRESS. WHEN THE PRESS IS HEATED (ABOUT 30 MINUTES), PLACE THE MATBOARD AND PRINT IN THE PRESS AND COVER. ALLOW TO HEAT FOR 30-45 SECONDS. THIS REMOVES ANY MOISTURE IN THE BOARD AND PRINT. →



7. WHEN THE TACKING IRON IS HOT ENOUGH, TACK THE MOUNTING TISSUE TO THE BACK OF THE PRINT IN THE FORM OF AN "X". →

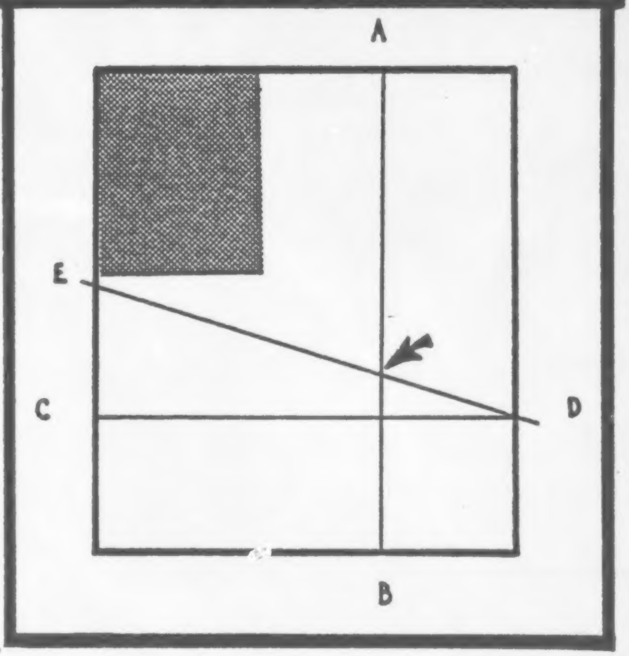
8. TRIM OFF THE EXCESS MOUNTING TISSUE.



9. NEXT, LOCATE THE AREA ON THE MATBOARD FOR MOUNTING. GENERALLY, THIS IS EQUALLY SPACED FROM BOTH SIDES, BUT RAISED A LITTLE FROM CENTER. SEE THE DRAWING FOR EXAMPLE. →

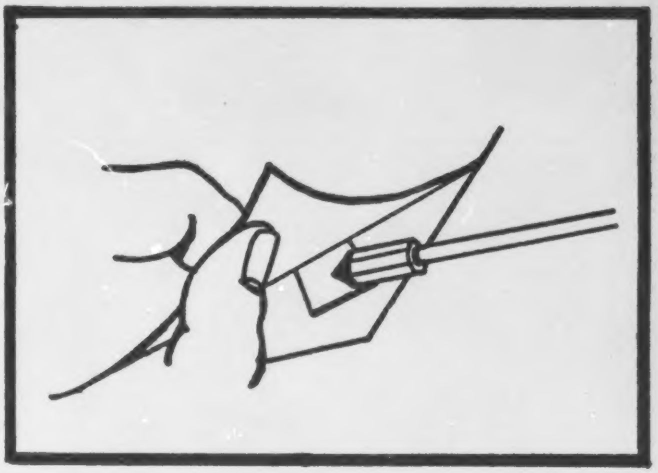
   LINE AB BISECTS THE SPACE TO THE RIGHT OF THE PRINT, WHILE LINE CD BISECTS THE SPACE BELOW THE PRINT. DRAW A LINE FROM E, WHICH IS THE LOWER LEFT CORNER OF THE PRINT, TO D. WHERE THAT LINE INTERSECTS AB IS THE LOCATION OF THE BOTTOM RIGHT CORNER OF THE PRINT.

   IF YOU WANT TO KEEP THE PRINT PERFECTLY CENTERED, JUST PLACE THE PRINT'S BOTTOM RIGHT CORNER AT THE INTERSECTION OF AB AND CD.



JOB STEPS

10. WITH THE PRINT HELD IN PLACE, RAISE A CORNER OF THE PRINT AND TACK THE MOUNTING TISSUE TO THE MOUNTING BOARD. REPEAT WITH AT LEAST ONE CORNER TO PREVENT THE PRINT FROM SLIPPING.



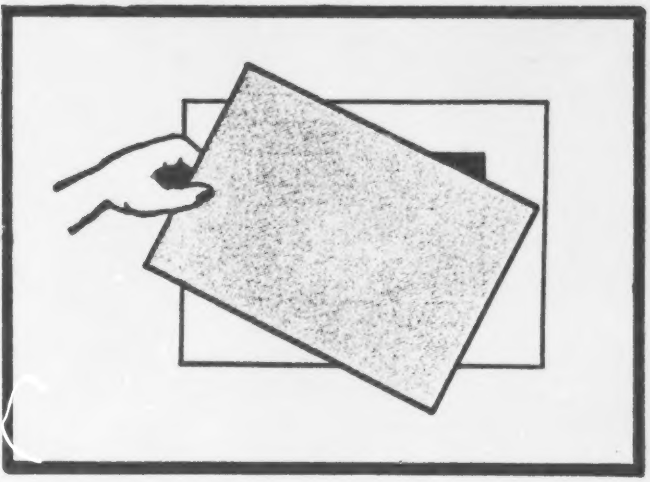
11. PUT THE PHOTO AND MOUNTING BOARD IN THE PRESS (PHOTO SIDE UP).

12. COVER THE PRINT WITH CLEAN, WAX-FREE PAPER.

13. CLOSE THE PRESS AND WAIT THE TIME SUGGESTED BY THE INSTRUCTOR.

    NOTE: IF WHEN YOU REMOVE THE PRINT FROM THE PRESS, IT FAILS TO REMAIN ATTACHED TO THE BOARD, THEN MORE TIME IN THE PRESS IS NEEDED.

14. REMOVE THE MOUNTED PICTURE FROM THE PRESS AND PLACE A WEIGHT OVER IT TO HOLD IT FLAT WHILE IT COOLS.



15. DISPLAY YOUR PRINT.

16. AFTER YOU HAVE SET YOUR DISPLAY, SHOW IT TO THE INSTRUCTOR.

graphics

unit: PHOTOGRAPHY (CONTINUOUS TONE)

capital area career center

1401 16 008

module: 1401 16 008 3 **date:** AUGUST 1977 **level:**

skill title: STUDIO LIGHTING

developed & written by: JERRY REIMER

visuals by: GLEN COOLEY

WORD GUIDE

COMPLEMENT - TO HELP WITH; TO ADD SOMETHING MORE TO; TO IMPROVE.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO ARRANGE STUDIO LIGHTS TO COMPLEMENT YOUR SUBJECT.

IN ORDER TO DO THIS YOU WILL NEED:

ONE STRONG LIGHT SOURCE

A CAMERA

A TRIPOD

BACKGROUND

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN SELECT THE BEST LIGHTING FOR YOUR SUBJECT.

A TAPE OF THIS MODULE IS AVAILABLE.

INFORMATION

BEFORE GOING ON WITH THIS MODULE, PLEASE VIEW THE THREE RELATED FILMSTRIPS ENTITLED: LIGHTING 1, LIGHTING 2, AND COMPOSITION.

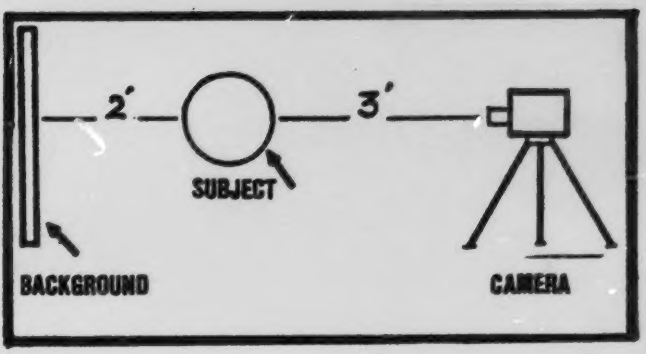
JOB STEPS

1. GET THE CAMERA AND LOAD WITH FILM.

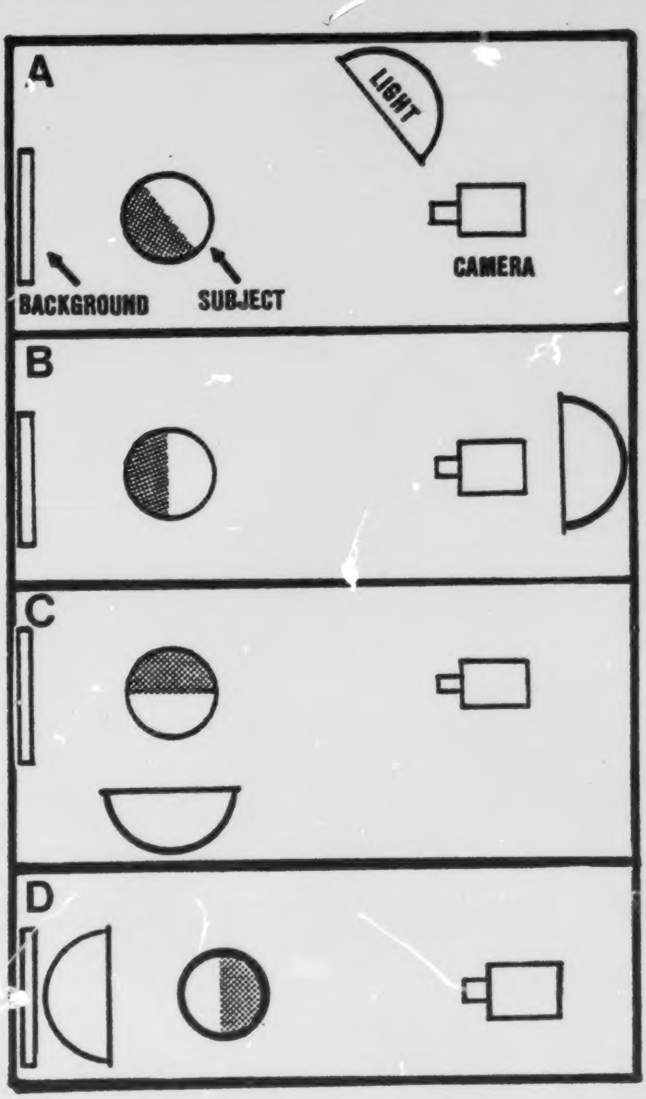
2. GET THE LIGHT SOURCE.

3. GET A SUBJECT (A FRIEND PERHAPS) AND SELECT A PLAIN BACKGROUND.

4. SET THE SUBJECT ON A STOOL. ARRANGE THE SUBJECT SO HE/SHE IS TWO FEET FROM THE BACKGROUND AND THREE FEET FROM THE CAMERA.


2'
3'
SUBJECT
BACKGROUND
CAMERA

5. SHOOT ONE PICTURE WITH THE LIGHT SOURCE ARRANGED IN EACH OF THE FOLLOWING POSITIONS: (FOLLOW THE FILM GUIDES SUGGESTIONS FOR GOOD COMPOSITION). KEEP THE LIGHT ABOUT AS HIGH AS THE SUBJECT'S HEAD.

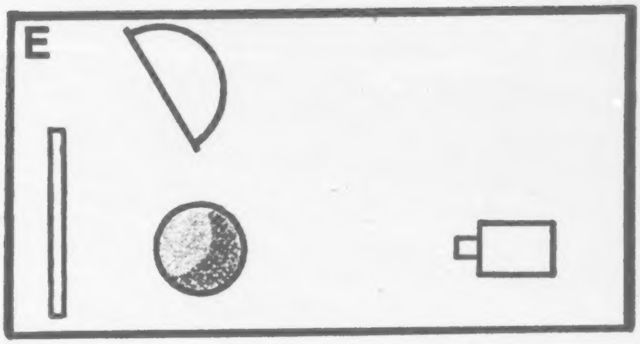

A
LIGHT
BACKGROUND
SUBJECT
CAMERA
B
C
D

NOTE: ARRANGEMENTS A-E ARE SHOWN AS IF YOU ARE LOOKING DOWN FROM ABOVE.

JOB STEPS

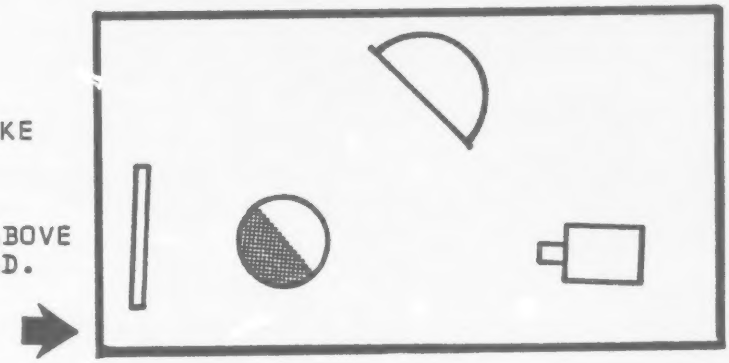
6. REPEAT THE SAME A-E SHOTS, BUT RAISE THE LIGHT TWO FEET.

7. REPEAT THE SAME A-E SHOTS, BUT LOWER THE LIGHT TWO FEET BELOW THE HEIGHT OF THE SUBJECT'S HEAD.

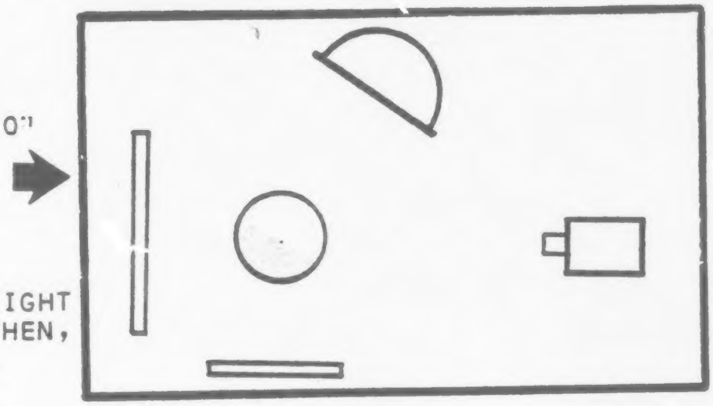


8. MOVE THE LIGHT SO IT IS LIKE THE DRAWING:

THE LIGHT SHOULD BE TWO FEET ABOVE THE LEVEL OF THE SUBJECT'S HEAD.



9. PLACE A REFLECTOR (16" X 20" WHITE CARDBOARD WITH A MATTE FINISH) LIKE THIS:



10. TAKE ONE SHOT LIKE THAT.

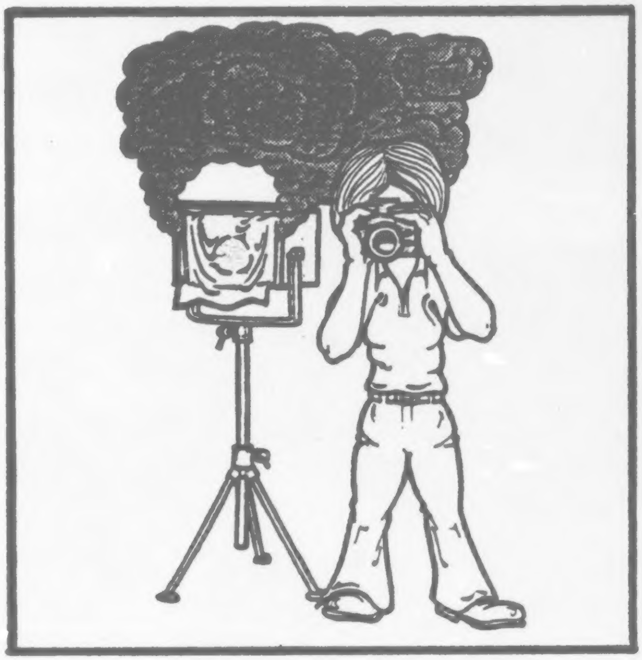
11. CHANGE THE REFLECTOR'S HEIGHT TO BE EQUAL WITH THE LIGHT. THEN, TAKE A PICTURE OF THE SUBJECT.

12. LOWER THE REFLECTOR BELOW THE LEVEL OF THE SUBJECT'S HEAD AND TAKE ANOTHER PICTURE.

WORD GUIDE

DIFFUSE - SPREAD OR SCATTER

JOB STEPS



13. PLACE A WHITE HANDKERCHIEF OVER THE LIGHT (DO NOT PUT THE HANDKERCHIEF DIRECTLY ON THE LIGHT SOURCE AS IT MIGHT CATCH FIRE). THIS WILL DIFFUSE AND SOFTEN THE LIGHT WHICH WILL DECREASE THE CONTRAST AND HARSH SHADOWS.

14. TAKE THE PICTURE.

15. CHANGE THE REFLECTOR HEIGHT FOR THE REMAINING SHOTS.

16. REWIND THE FILM AND REMOVE IT FROM CAMERA.

17. PROCESS THE FILM AND MAKE A PROOF SHEET.

18. SHOW THE INSTRUCTOR THE PROOF.

19. CLEAN UP THE AREA.

NOTE: IN THIS MODULE YOU HAVE HAD A BRIEF EXPOSURE TO THE STUDIO PHOTOGRAPHER'S JOB OF FINDING THE RIGHT LIGHTING FOR THE SUBJECT. AS YOU LOOK AT THE PROOF SHEET, YOU CAN SEE SOME OF THE SHOTS LOOK BETTER THAN OTHERS. TO IMPROVE THE LIGHTING, YOU COULD HAVE USED SEVERAL "FILL" LIGHTS. FOR EXAMPLE" FOR A THREE-DIMENSIONAL LOOK, A LIGHT AIMED AT THE BACKGROUND IS NECESSARY.

TO ADD MORE DEPTH TO THE SUBJECT, YOU NEED A LIGHT FROM 45° BEHIND, ACCENTING THE HAIR AND SHOULDERS. THE LIGHTING FOR EACH SUBJECT MUST BE SUITED FOR THAT SUBJECT. THIS TAKES A GREAT DEAL OF PRACTICE TO PERFECT. WITH THE INFORMATION FROM THE FILMSTRIP (COMPOSITION AND LIGHTING) SERIES, PRACTICE AND A KEEN EYE, YOU CAN MASTER THE ART OF STUDIO PHOTOGRAPHY.

graphics

unit: PHOTOGRAPHY (CONTINOUS TONE)

capital area career center

1401 16 009
module: 1401 16 009 3 **date:** 8/77 **level:**

skill title: ADVANCED ENLARGER USE AND PRINT CORRECTION

developed & written by: JERRY REIMER

visuals by: DAVE BROWN

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO PERFORM THE FOLLOWING: BAS RELIEF, SANDWICHING, VIGNETTING, FLASHING, PRINT PERSPECTIVE CORRECTION, MONTAGE, PRINT DIFFUSION, REDUCING, TONING, AND SPOTTING.

IN ORDER TO DO THIS YOU WILL NEED:

THE SKILLS YOU HAVE DEVELOPED IN THE OTHER MODULES
YOUR NEGATIVES
PRINT PAPER
PROCESSING CHEMICALS
NYLON MESH
REDUCING CHEMICALS
TONING SOLUTIONS
SPOTTING SOLUTIONS

WE WILL KNOW YOU CAN DO IT WHEN:

YOU CAN MAKE AT LEAST ONE PRINT USING EACH OF THE TECHNIQUES.

NOTE: A SHORT DESCRIPTION OF EACH TECHNIQUE AND WHY IT IS USED WILL INTRODUCE THE JOB STEPS FOR THAT TECHNIQUE.

A TAPE OF THIS MODULE IS AVAILABLE.

WORD GUIDE

VARYING - CHANGING.

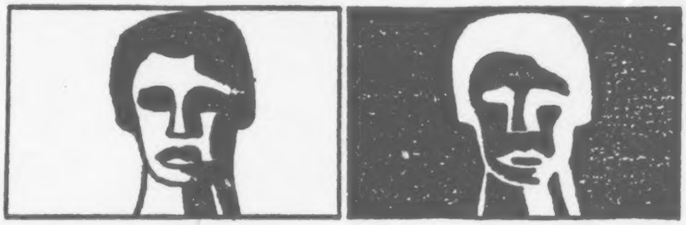
CHARACTERISTICS - PARTS; PROPERTIES.

JOB STEPS

BAS RELIEF:

BAS RELIEF, WHICH GIVES A PRINT A THREE-DIMENSIONAL LOOK, IS DONE BY PRINTING A POSITIVE AND A NEGATIVE AT THE SAME TIME.

NOTE: FOR ALL OF THE FOLLOWING JOB STEPS, TAKE ALL MATERIALS AND EQUIPMENT TO YOUR WORK AREA.



1. GET A PIECE OF FILM THE SAME SIZE TO THE NEGATIVE FOR WHICH YOU WISH TO BAS RELIEF.

2. PLACE THE NEGATIVE EMULSION SIDE, DOWN ON THE GLASS SURFACE OF THE CONTACT PRINTER.

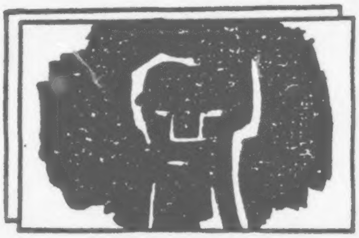
3. PLACE THE FILM EMULSION SIDE, DOWN OVER THE NEGATIVE.

4. EXPOSE FOR THE INSTRUCTOR'S RECOMMENDED TIME.

5. PROCESS THE FILM NORMALLY.

6. AFTER THE FILM HAS BEEN DRIED, TAPE TOGETHER THE EDGES OF THE TWO NEGATIVES (SLIGHTLY OUT OF REGISTER).

7. PRINT AS USUAL.



NOTE: A VARIETY OF EFFECTS CAN BE ACHIEVED BY VARYING THE EXPOSURE, CONTRAST OF THE FILM POSITIVE, AND VARYING THE AMOUNT OF OFF-REGISTRATION. EXPERIMENT TO FIND THE RESULTS WHICH PLEASE YOU.

SANDWICHING OR MULTIPLE PRINTING:

SANDWICHING IS THE COMBINATION OF ALL, OR PARTS, OF TWO OR MORE NEGATIVES INTO ONE PRINT. OFTEN, THIS IS USED WHEN, FOR EXAMPLE, A LANDSCAPE PRINT HAS A WASHED-OUT SKY. TO SHARPEN THE SKY, WE USE ANOTHER NEGATIVE WITH BETTER SKY CHARACTERISTICS. SANDWICHING IS ALSO USED IN WEDDING PHOTOGRAPHY (PUTTING THE GROOM'S FACE INTO THE BRIDE'S SILHOUETTE IS VERY POPULAR). TRY IT YOURSELF AND SEE WHAT YOU COME UP WITH.

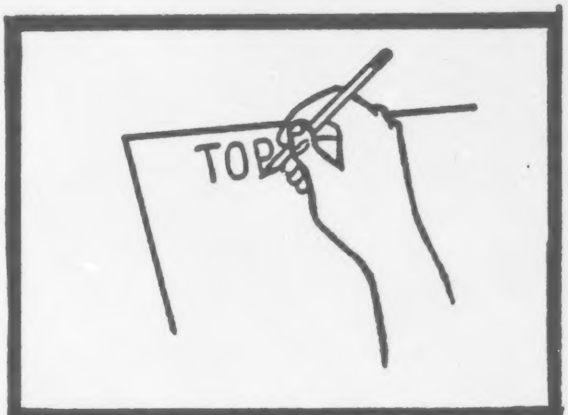
JOB STEPS

1. BEGIN BY MAKING A TEST PRINT OF ONE OF THE NEGATIVES. THIS IS TO FIND THAT NEGATIVE'S BEST EXPOSURE.

2. PROCESS THE TEST PRINT NORMALLY.

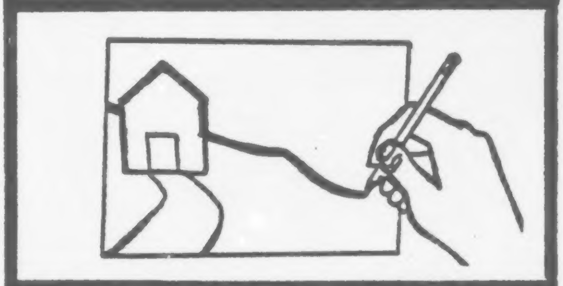
3. WITH THE FIRST NEGATIVE STILL IN THE ENLARGER, CORRECTLY EXPOSE ANOTHER SHEET OF PRINT PAPER. DO NOT PROCESS THE PAPER.

4. ON THE BACK OF THE EXPOSED (BUT UNDEVELOPED) PRINT, DRAW A POINTER TO INDICATE THE TOP OF THE SCENE.



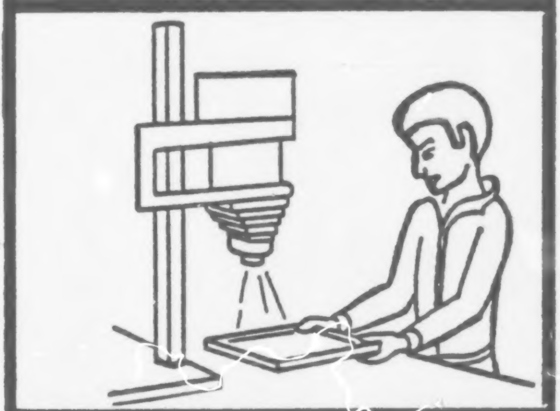
5. PLACE THE EXPOSED SHEET AWAY FROM LIGHT. THEN, WITHOUT MOVING THE EASEL, PLACE A PLAIN SHEET OF WHITE PAPER IN THE EASEL.

6. TURN ON THE ENLARGER AND DRAW THE OUTLINE OF THE FIRST NEGATIVE. THIS IS USED TO POSITION THE SECOND NEGATIVE.



7. KEEP THE TRACING IN THE EASEL. REMOVE THE FIRST NEGATIVE FROM THE ENLARGER AND REPLACE IT WITH THE SECOND NEGATIVE.

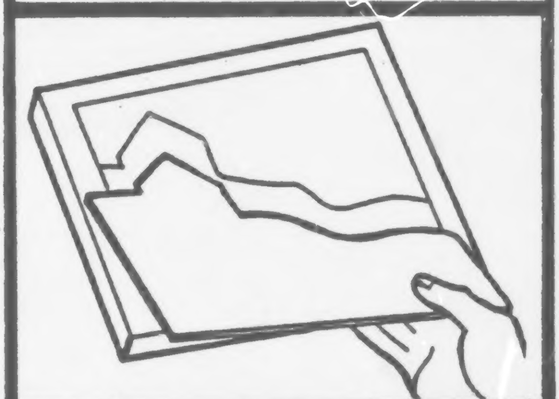
8. PROJECT THE SECOND NEGATIVE IMAGE ONTO THE TRACING AND ARRANGE THE EASEL SO THE SECOND IMAGE IS POSITIONED WITHIN THE FIRST IMAGE WHERE YOU WANT IT.



9. REPLACE THE TRACING WITH A FRESH SHEET OF PRINT PAPER.

10. MAKE A TEST PRINT, TRYING NOT TO MOVE THE EASEL.

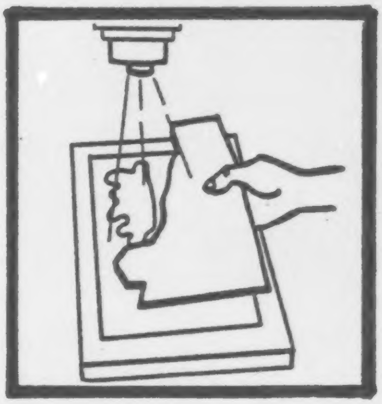
11. A "BURNING-IN" DEVICE IS NEEDED TO ALLOW THE SECOND IMAGE TO FALL ON THE PRINT WITHOUT OVER-EXPOSING THE FIRST IMAGE. THIS COULD BE DARK MATBOARD, WITH A SHAPE SIMILAR TO THE SECOND IMAGE CUT AWAY.



WORD GUIDE

COMPATIBLE - SIMILAR

JOB STEPS



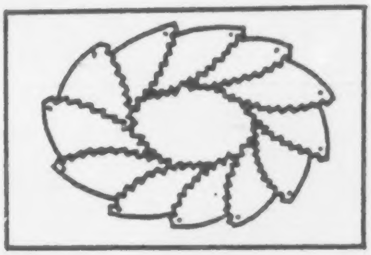
12. PLACE THE PARTIALLY EXPOSED PRINT PAPER BACK IN THE EASEL. HOLDING THE "BURNING-IN" DEVICE BETWEEN THE LENS AND EASEL, EXPOSE FOR THE SECOND IMAGE.

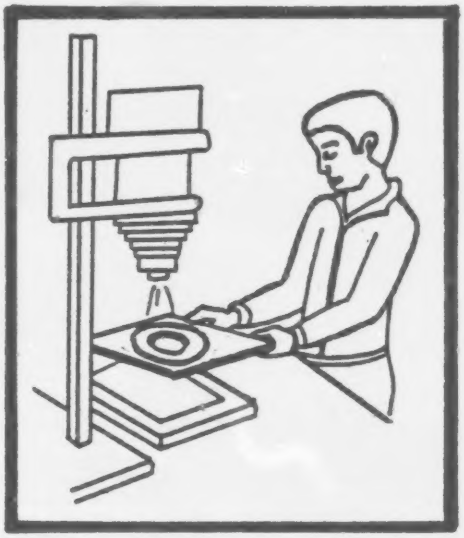
13. PROCESS THE PRINT AS USUAL.

NOTE: TO GET A SUCCESSFUL PRINT, YOU MUST SELECT TWO COMPATIBLE NEGATIVES. THIS MEANS THE FIRST NEGATIVE MUST HAVE AN AREA (THE AREA OF THE PROPOSED SECOND IMAGE) WHICH IS SOMEWHAT DENSE. THIS IS NECESSARY SO THAT THE SECOND IMAGE WILL SHOW UP ON THE PRINT. IT WOULD ALSO BE HELPFUL IF THE SECOND NEGATIVE HAS DENSE AREAS IN THE NON-PRINTING SECTION. USE YOUR CREATIVITY WHEN MAKING MULTIPLE PRINTS.

VIGNETTING:

THE STYLE OF "DODGING" OR "BURNING" COMPLETELY AROUND A SUBJECT - CAUSING THE SUBJECT TO FADE INTO A WHITE OR BLACK BACKGROUND - IS KNOWN AS "VIGNETTING". THIS IS ESPECIALLY EFFECTIVE WITH PORTRAITS.





1. SELECT A NEGATIVE AND PLACE IT IN THE ENLARGER, AS USUAL.

2. MAKE A TEST PRINT TO DETERMINE EXPOSURE. FOR A WHITE VIGNETTE EFFECT, FOLLOW STEP #3; FOR A DARK VIGNETTE, FOLLOW STEPS #5 & 6.

3. WITH A "BURNING-IN" TOOL BETWEEN THE LENS AND EASEL, MAKE ANOTHER PRINT. TRY NOT TO ALLOW ANY LIGHT TO REACH THE EDGES.

4. PROCESS AS USUAL.

WORD GUIDE

JOB STEPS

UTILIZES - MAKES USE OF.

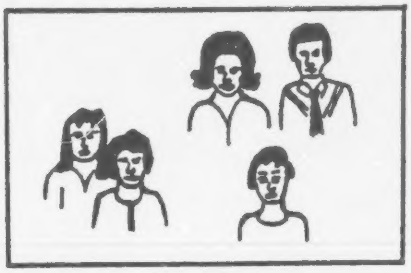
5. WITH A FRESH SHEET OF PRINT PAPER IN THE EASEL, MAKE THE INITIAL EXPOSURE.

6. USING YOUR HAND OR OTHER DEVICE, EXPOSE AGAIN FOR THE CORNERS.

NOTE: IF YOU KNOW YOU ARE GOING TO MAKE A VIGNETTED PICTURE WHEN YOU ARE PHOTOGRAPHING THE SUBJECT, YOU CAN USE A LIGHT-COLORED BACKGROUND (FOR A WHITE-CORNERED VIGNETTE) OR A DARK-COLORED BACKGROUND (FOR A DARK-CORNERED VIGNETTE). A LIGHT OR WHITE BACKGROUND MAKES IT EASIER TO FADE THE IMAGES FOR VIGNETTING, JUST AS THE DARK BACKGROUND MAKES IT EASIER TO FADE FOR DARK CORNERS.

MONTAGE:

MONTAGE UTILIZES BOTH VIGNETTING AND MULTIPLE PRINTING. THIS IS ANOTHER COMMONLY USED TECHNIQUE FOR STUDIO PHOTOGRAPHERS. SEVERAL DIFFERENT VIEWS OF THE SAME SUBJECT (OR A FAMILY) ARE EXPOSED ONTO ONE PRINT. THE DIFFERENT VIEWS ALL BLEND INTO A WHITE BACKGROUND, MADE POSSIBLE BY VIGNETTING.



1. MAKE A ROUGH SKETCH OF DIFFERENT IMAGES AND PLACEMENTS OF THE IMAGES. THIS SKETCH SHOULD BE THE SAME SIZE AS THE FINAL PRINT.

2. PLACE THE SKETCH IN THE EASEL.

3. WITH THE FIRST NEGATIVE IN THE ENLARGER, PROJECT IT ONTO THE SKETCH.

4. AFTER GETTING THE APPROXIMATE IMAGE-SIZE AND FOCUSING, EXPOSE AND DEVELOP A TEST SHEET.

5. AFTER FINDING THE CORRECT EXPOSURE, PLACE A CLEAN SHEET OF PRINT PAPER IN THE EASEL.

6. WITH VIGNETTER IN PLACE, EXPOSE FOR THE FIRST NEGATIVE:

A. REMOVE THE EXPOSED SHEET FROM THE EASEL AND TURN IT OVER.

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JOB STEPS ALIGN - TO POSITION PROPERLY.

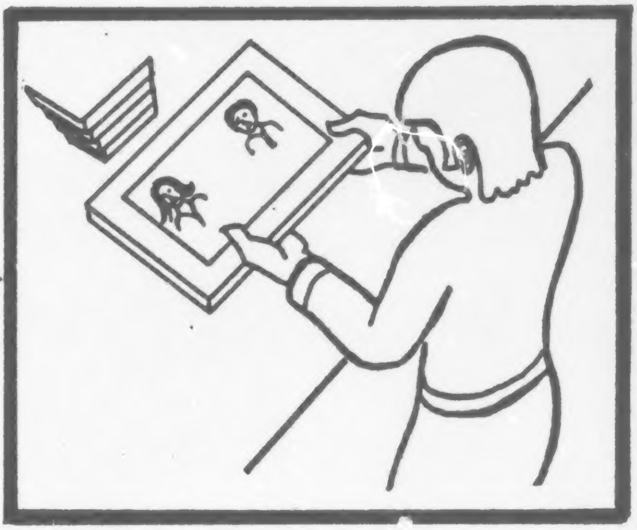
B. MARK THE SHEET AT THE TOP OF THE SCENE.

C. PLACE THE SHEET IN A LIGHT-TIGHT BOX.

7. REPLACE THE EXPOSED SHEET WITH YOUR SKETCH.

8. REPLACE THE FIRST NEGATIVE WITH THE SECOND.

9. ALIGN THE EASEL FOR THE SECOND PROJECTED IMAGE. →



10. MAKE A TEST PRINT TO FIND THE CORRECT EXPOSURE. TRY NOT TO MOVE THE EASEL.

11. CORRECTLY PLACE THE PRINT PAPER WITH THE PARTIALLY EXPOSED AREA IN THE EASEL.

12. WITH VIGNETTER IN PLACE, EXPOSE FOR THE SECOND IMAGE. PLACE THE SHEET BACK INTO THE LIGHT-TIGHT BOX.

13. REPEAT THE STEPS FOR AS MANY IMAGES AS YOU WANT. ALWAYS FOLLOW THESE STEPS:

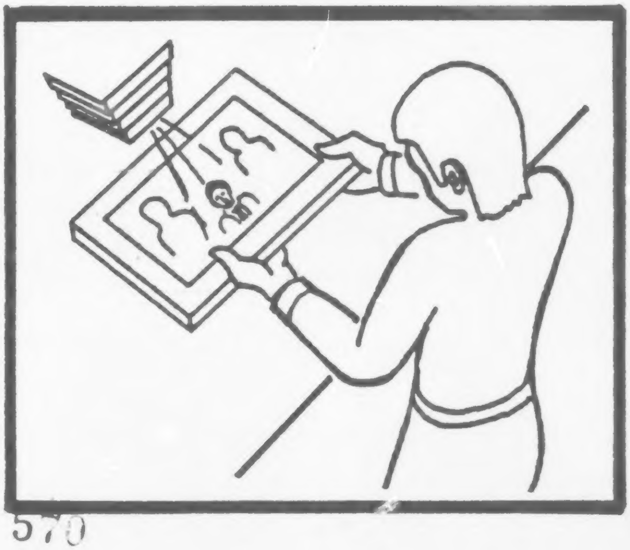
A. WITH FIRST NEGATIVE IN ENLARGER, ALIGN THE PROJECTED IMAGE WITH THE SKETCH.

B. REPLACE SKETCH WITH TEST PAPER AND MAKE A TEST PRINT.

C. WITH VIGNETTER IN PLACE, EXPOSE A FRESH SHEET OF PAPER, BUT DO NOT PROCESS.

D. CHANGE THE NEGATIVE.

E. PROJECT THE SECOND IMAGE ONTO THE CORRECT SPOT OF THE SKETCH AND THEN MAKE A TEST PRINT. →



F. WITH VIGNETTER IN PLACE, EXPOSE THE PARTIALLY EXPOSED PAPER, BUT DO NOT PROCESS.

G. WITH THIRD NEGATIVE IN ENLARGER, ALIGN THE PROJECTED IMAGE WITH THE SKETCH.

WORD GUIDE

GROSSLY - GREATLY

CONVERGE - COME TOGETHER; MORE CLOSE TOGETHER.

JOB STEPS

H. WITHOUT MOVING THE EASEL, MAKE A TEST PRINT.

I. EXPOSE THE PARTIALLY EXPOSED PAPER WITH THE THIRD IMAGE.

J. DEVELOP THE PRINT ONLY AFTER ALL THE IMAGES ARE ON THE PAPER.

FLASHING:

FOR GROSSLY OVEREXPOSED NEGATIVES (VERY DENSE) YOU WILL SOMETIMES HAVE TO DIRECT RAW LIGHT ONTO AREAS OF THE PRINT. THIS IS DRASTIC AND HOPEFULLY WILL NOT BE NEEDED OFTEN. IT IS NECESSARY AT TIMES WHEN WE SHOOT A SEENIC AREA WITH SKY (OFTEN THE SKY WILL LOOK WHITE IN THE PRINT). THIS IS BECAUSE BLACK AND WHITE FILM IS MORE SENSITIVE TO BLUE THAN IT IS TO ANY OTHER COLORS. IF WE KNOW THIS BEFORE TAKING THE PICTURE, WE CAN COMPENSATE WITH A YELLOW OR RED FILTER. "FLASHING" IS SIMILAR TO "BURNING-IN" EXCEPT WE WILL USE LIGHT THAT DOES NOT PASS THROUGH THE NEGATIVE.

1. MAKE A TEST PRINT TO FIND THE INITIAL EXPOSURE AND CONTRAST.

2. WITH A FRESH SHEET OF PRINT PAPER IN THE EASEL, EXPOSE AS USUAL.

3. REMOVE THE NEGATIVE CARRIER WITH THE NEGATIVE FROM THE ENLARGER.

4. TURN THE ENLARGER'S APERTURE RING TO THE LARGEST F-STOP (SMALLEST OPENING).

5. BLOCKING THE GOOD AREAS OF THE PRINT WITH YOUR HAND OR OTHER DEVICE, EXPOSE THE OVEREXPOSED AREAS. EXPOSURE TIMES DEPEND ON THE DENSITY OF THE OVEREXPOSED AREAS, THE INTENSITY OF THE ENLARGER LAMP, AND THE HEIGHT OF THE ENLARGING HEAD.

6. PROCESS AS USUAL.

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DODGING - MOVING AN OBJECT BETWEEN THE ENLARGER'S LENS AND THE PRINT PAPER DURING THE EXPOSURE, TO LIGHTEN AN AREA OF THE PRINT. WHAT YOU ARE DOING IS STOPPING SOME OF THE LIGHT FROM HITTING THE PRINT.

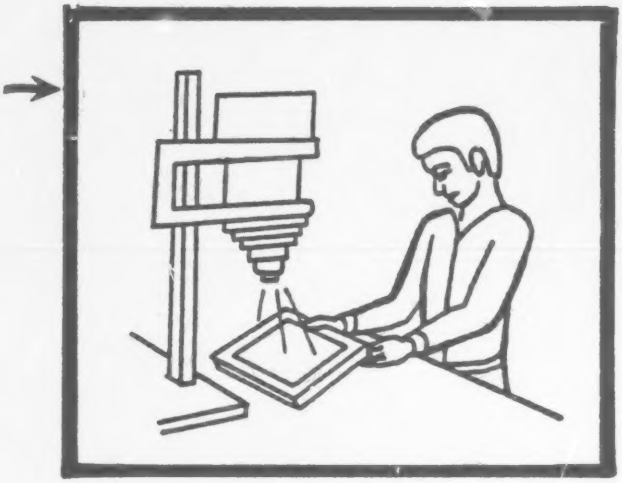
JOB STEPS

PRINT PERSPECTIVE CORRECTION:

IF YOU EVER SHOOT A TALL BUILDING FROM THE GROUND FLOOR, YOU WILL NOTICE HOW THE BUILDING LINES SEEM TO CONVERGE. TO AVOID THIS SOMEWHAT, WE USE A TECHNIQUE KNOWN AS PRINT PERSPECTIVE CORRECTION.

1. PLACE A NEGATIVE WHICH HAS CONVERGING LINES AS PART OF THE SCENE INTO THE ENLARGER.

2. PROP UP THE SIDE OF THE EASEL WHERE THE IMAGE SIZE IS TO BE REDUCED. CONTINUE RAISING THAT SIDE UNTIL YOU GET THE DESIRED SHAPE.



3. FOCUS IN ABOUT THE MIDDLE OF THE EASEL. BOTH THE HIGH AND LOW SIDES OF THE EASEL WILL BE OUT OF FOCUS BUT, IF YOU STOP-DOWN THE APERTURE TO THE SMALLEST OPENING, THE PHOTOGRAPH WILL BE IN REASONABLE FOCUS.

4. MAKE A TEST PRINT. LOOKING AT THE PROCESSED TEST PRINT, NOTICE THE SIDE RAISED CLOSEST TO THE ENLARGER IS SOMEWHAT DARKER. COMPENSATE FOR THIS BY DODGING.

5. MAKE THE FINAL PRINT AS USUAL.

PRINT DIFFUSION:

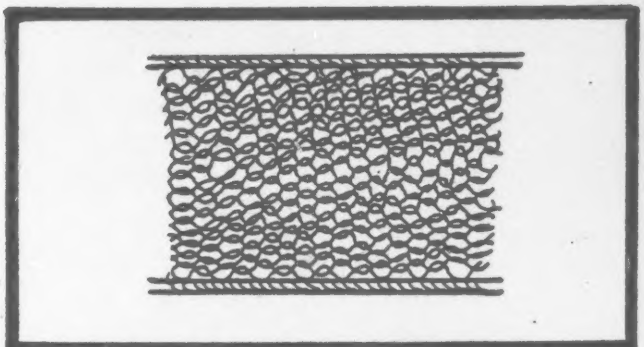
IN ORDER TO REDUCE SHARPNESS AND SOFTEN THE PRINT, WE USE SOME TYPE OF DIFFUSION. COMMON DIFFUSION MATERIALS ARE NYLON STOCKINGS, CRUMPLED CELLOPHANE, AND SPECIAL DIFFUSION LENSES OR FILTERS. DIFFUSION IS ESPECIALLY USEFUL IN STUDIO PHOTOGRAPHY TO REDUCE WRINKLES AND PIMPLES.

JOB STEPS

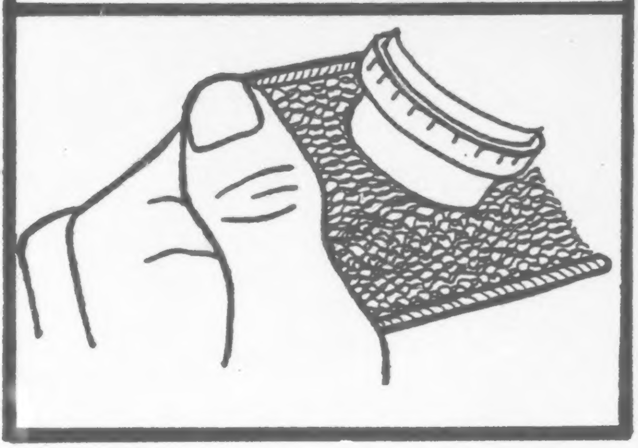
1. PLACE THE NEGATIVE IN THE ENLARGER, AS USUAL.

2. MAKE A DEVICE SIMILAR TO THE ONE SHOWN ON THE RIGHT.

THE DIAMETER OF THE OPENING SHOULD BE GENEROUSLY LARGER THAN THE OPENING OF THE ENLARGING LENS. →



3. HOLD THE DIFFUSER CLOSE TO THE LENS WHILE EXPOSING FOR THE TEST PRINT. →



4. MAKE THE NECESSARY CHANGES IN EXPOSURE AND CONTRAST BEFORE MAKING THE FINAL PRINT.

5. PROCESS NORMALLY.

REDUCING OR BLEACHING:

REDUCING IS THE PROCESS OF REMOVING SOME OF THE DARKNESS FROM PARTS OF THE PRINT AFTER THE PRINT HAS GONE THROUGH DEVELOPMENT, STOP, AND ABOUT ONE MINUTE OF FIX.

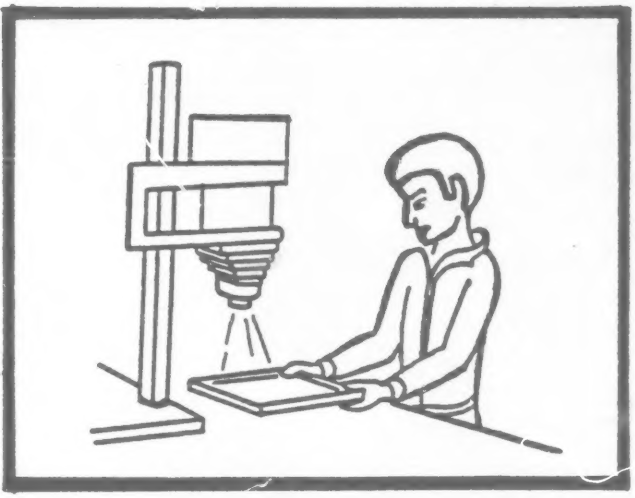
1. MIX A SOLUTION OF POTASSIUM FERRICYANIDE AND WATER (ONE EIGHTH TEASPOON TO EIGHT OUNCES WATER).

A. POUR THE POTASSIUM FERRICYANIDE INTO THE WATER.

B. MIX ONLY IN WELL VENTILATED AREAS AND PROTECT YOUR CLOTHING AND HANDS.

C. WASH OFF SPILLS IMMEDIATELY.

2. EXPOSE THE PRINT PAPER, AS USUAL. →



3. FOLLOW NORMAL INSTRUCTIONS FOR DEVELOPMENT AND STOP SOLUTIONS.

WORD GUIDE

INSUFFICIENT - NOT ENOUGH; TOO LITTLE.

JOB STEPS

4. FIX FOR ONE MINUTE.

5. REMOVE THE PRINT FROM THE FIX AND RUB A COTTON SWAB DIPPED IN REDUCER OVER THE DESIRED AREAS.

6. STOP THE REDUCING ACTION BY PLACING THE PRINT BACK INTO THE FIX.

7. FIX FOR THE REMAINING TIME, THEN PROCEED AS USUAL THROUGH THE PROCESSING STEPS.

TONING:

TO CHANGE THE IMAGE TONES OF A PRINT TO DIFFERENT COLORS, WE USE A TECHNIQUE CALLED TONING.

1. SELECT THE COLOR YOU WISH TO USE TO TONE YOUR PRINT (KODAK MAKES: REDDISH-BROWN, BROWN, BROWNISH-YELLOW, AND BLUE). MIX THE TONER ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

2. PROCESS THE PRINT, EXCEPT FOR DRYING.

3. PLACE THE PRINT IN THE TONER SOLUTION AND CONTINUE TO FOLLOW THE INSTRUCTIONS.

4. DRY AS USUAL.

NOTE: MOST PROBLEMS FROM TONING OCCUR BECAUSE OF INSUFFICIENT WASHING. A TONED PRINT ADDS MOOD TO A PRINT.

SPOTTING:

SPOTTING A PRINT REMOVES DUST AND SCRATCH MARKS. THE PRINT IS PROCESSED COMPLETELY AND THEN THOROUGHLY DRIED BEFORE SPOTTING OCCURS.

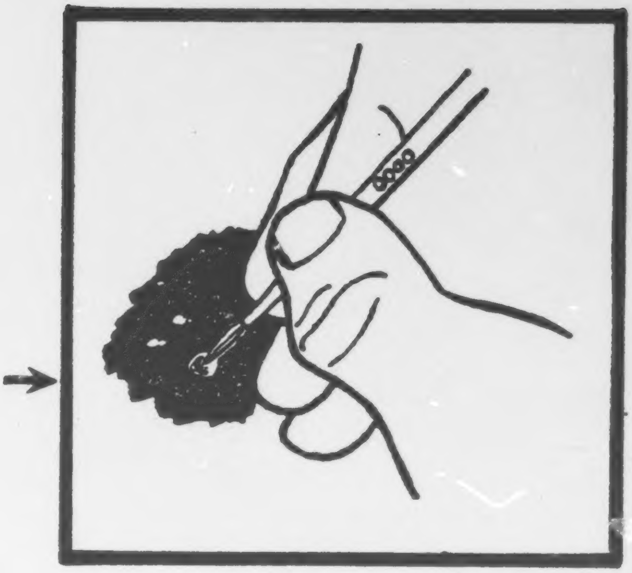
1. GET THE SPOTTING DIES AND BRUSH (NUMBER ZERO OR DOUBLE-ZERO WILL DO) AND THEN, ON A PALETTE, MIX A SMALL AMOUNT OF DYE WITH WATER. FOR DARKER TONES, USE LESS WATER.

2. MIX WITH ENOUGH WATER TO GET A SLIGHTLY LIGHTER DYE THAN THE AREA TO BE SPOTTED. THIS WAY THE TONE CAN BE BUILT UP UNTIL IT MATCHES THE AREA EXACTLY.

3. TOUCH THE BRUSH TIP TO THE DYE THEN TO THE CENTER OF THE SPOT. WORK YOUR WAY OUT FROM THE CENTER.

4. CONTINUE APPLYING COATS UNTIL THE SPOT IS COVERED.

5. ALLOW TO DRY THOROUGHLY.



graphics

unit: PHOTOGRAPHY (CONTINOUS TONE)

capital area career center

module: 1401 16 010
1401 16 010 3
date: 8/77 level: IV

skill title: PHOTO ASSIGNMENT AND PRODUCTION

developed & written by: JERRY REIMER

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

HOW TO FOLLOW-UP ON AN ASSIGNMENT USING THE SKILLS DEVELOPED SO FAR.

AND IN ORDER TO DO THIS YOU WILL NEED:

YOUR KNOWLEDGE AND SKILLS FROM THE PREVIOUS MODULES IN PHOTOGRAPHY

TWO OR THREE ROLLS OF FILM

35 MM CAMERA

WE WILL KNOW THAT YOU CAN DO IT WHEN:

YOU HAVE SUBMITTED THE FINISHED PRINTS.

A TAPE OF THIS MODULE IS AVAILABLE.

JOB STEPS

1. CHOOSE ANY THEME WHICH INTERESTS YOU. SOME EXAMPLES ARE: LICENSE PLATES, CATS, OLD PEOPLE, BARNS, KIDS, BRIDGES, STREETS, SIGNS, OTHER PHOTOGRAPHERS, ETC.

2. LOAD THE FILM INTO THE CAMERA AND SET THE ASA INDICATOR TO THE RIGHT NUMBER (FILM SPEED).

3. GATHER ALL THE PARTS OF THE CAMERA SYSTEM YOU FEEL YOU WILL NEED (I.E. DIFFERENT LENSES, FILTERS, FLASH UNITS, ETC).

4. GO TAKE THE PHOTOS.

5. PROCESS THE ROLLS OF FILM.

6. MAKE A PROOF SHEET.

7. ELIMINATE THE WORST SHOTS AND PRINT THE OTHERS (5 X 7"). USE YOUR BEST TECHNIQUES IN PRINTING AND BE VERY PICKY IN CHOOSING THE CORRECT EXPOSURES AND CONTRASTS. MAKE USE OF WHAT YOU HAVE LEARNED UP TO NOW TO MAKE THE SHOTS LOOK AS GOOD AS THEY POSSIBLY CAN. THIS INCLUDES, TONING, DIFFUSING, MONTAGE, ETC.

8. CORRECT ANY FLAWS (LIKE DUST) AND THEN MOUNT THE PRINTS FOR DISPLAY.